LEPIDOPTERA HETEROCERA
IN
THE BRITISH MUSEUM.

PART III.

ILLUSTRATIONS

OF

TYPICAL SPECIMENS

OF

LEPIDOPTERA HETEROCERA

IN

THE COLLECTION

OF

THE BRITISH MUSEUM.

PART III.—BY ARTHUR GARDINER BUTLER.

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PREFACE.

The third part of this Work is devoted to illustrations of types of Japanese and Chinese Moths in the British Museum, and therefore may be regarded as a continuation of Part II. It perhaps exhibits even to a greater extent the strongly marked European character of a great portion of this fauna, as remarked upon already in the preceding part.

Again, the greater part of the species represented are from the Collection made at Yokohama by Mr. F. M. Jonas, and that formed by Mr. H. Whitely at Hakodaté.

The Chinese species are, almost without exception, nearly allied to Japanese forms; several species, moreover, are common to both localities.

The descriptions of the third part, like those of the preceding, have been prepared by Mr. A. G. Butler, F.L.S., one of the Senior Assistants in the Department of Zoology.

ALBERT GÜNTHER,

Keeper of the Department of Zoology.

British Museum, January 3, 1879.

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ILLUSTRATIONS

OF

TYPE SPECIMENS

OF

LEPIDOPTERA HETEROCERA.

SPHINGIDÆ.

CHÆROCAMPA, *Duponchel.*

Chærocampa suffusa. (Plate XLI. fig. 1.)

Chærocampa suffusa, *Walker, Cat. Lep. Het.* viii. p. 146. n. 42 (1856).

Primaries above pearly whitish, with stramineous costal margin and a broad rufous-brown costal border tapering to apex; subcostal area rather dusky and limited by a very oblique olive-brown stripe, followed by two parallel lines of the same colour; a tapering oblique rufous-brown fascia, with paler central streak, from inner margin to apex, followed by a stripe of the same colour parallel to the outer margin; fringe rufous-brown; edge of inner margin white: secondaries rose-red, with black subbasal patch; abdominal border whitish; outer border pale flesh-coloured; a submarginal blackish belt: head and thorax olivaceous, with whitish borders; thorax with a broad longitudinal central stripe; abdomen sandy reddish, with pale longitudinal central stripe, bounded on each side by olivaceous; antennæ white. Wings below ochraceous, speckled and bordered with pearly grey; the primaries with a broad subbasal rosy nebula; body below pale flesh-coloured, the palpi and under surface of anterior legs white. Expanse of wings 3 inches 11 lines.

Hong-Kong (*Bowring*).

Chærocampa pallicosta. (Plate XLI. fig. 2.)

Chærocampa pallicosta, *Walker, Cat. Lep. Het.* viii. p. 145. n. 31 (1856).

Primaries above reddish chocolate-colour, with the subcostal area at the base and the external third suffused with lilacine; a broad, transverse, discal, dentate-sinuate band of the ground-colour edged with blackish internally; costal margin stramineous, a spot at the end

of the cell and the greater part of the inner margin white: secondaries rusty red, with dusky border and white fringe: head and thorax reddish chocolate with white borders; abdomen rusty reddish, with slightly greyish dorsal region; antennæ white. Wings below brick-red, pale at the base, speckled with grey; outer borders silky greyish: primaries with stramineous nternal area and costal border; apex with a white dash; a dusky discal line: secondaries with a discal series of dark dots: body below flesh-coloured, brick-red at the sides. Expanse of wings 3 inches 3 lines.

Hong-Kong (*Harrington*); Silhet (*Stainsforth*).

TRIPTOGON, *Bremer*.

Triptogon roseipennis. (Plate XLI. fig. 3.)

Triptogon roseipennis, *Butler, Proc. Zool. Soc.* 1875, p. 257. n. 49; *Trans. Zool. Soc.* vol. ix. p. 588, pl. xci. fig. 6, transformations (1876).

♀. Primaries above brownish ochreous, lilacine between the dusky lines, which are similar to those of *T. gaschkewitschii*; the inner border and apical area broadly slaty grey; outer margin from apex to first median branch blackish; a black spot on the inner margin near external angle; basal tuft rosy: secondaries rose-colour, becoming ochraceous at outer margin; two large black subanal spots: thorax brownish lilacine, with a broad black-brown central longitudinal stripe, widening behind; abdomen brownish lilacine, darker in the middle than at the sides; antennæ cream-coloured. Wings below much as in the allied species, pale reddish brown with broad copper-brown outer borders; two parallel indistinct lines of the same colour across the middle; internal areas broadly rose-red; primaries with whitish costal border; body below purplish brown. Expanse of wings 3 inches 7 lines.

♀, Hakodaté (*Whitely*); ♂, Yokohama (*Jonas*).

Triptogon complacens. (Plate XLI. fig. 4.)

♂. Smerinthus complacens, *Walker, Cat. Lep. Het. Suppl.* i. p. 40 (1864).
♀. Smerinthus dyras, var. β, *Walker, Cat. Lep. Het.* viii. p. 251 (1856).

Nearly allied to the preceding species, but larger, greyer, with the outer margin of the primaries less strongly dentated, the spot near external angle smaller, and the dusky lines different in direction; the secondaries altogether deeper in colour, with broadly diffused smoky brown outer border, and smaller black spots at anal angle; thorax darker, with less distinctly defined central blackish stripe: wings below altogether darker and greyer, the borders and lines smoky brown; body below darker. Expanse of wings 3 inches 9 lines.

♂, Amoy; ♀, Shanghai (*Fortune*); Hakodaté (*Whitely*); Yokohama (*Jonas*).

Differs from *T. roseipennis* in the same degree as do the other species of the genus.

ACHERONTIA, *Hübner.*

Acherontia medusa. (Plate XLI. fig. 5.)

Acherontia medusa, *Butler, Trans. Zool. Soc.* vol. ix. p. 597 (1876).

Allied to *A. styx* of Northern India, but running to a greater size: primaries above with scarcely a trace of longitudinal reddish streaks; subapical paler area less oblique, the intersecting transverse lines less strongly dentated: secondaries with the black bands usually closer together, better defined, the inner ones generally extending at least to the third median branch: body above darker, the skull-marking on the thorax much darker; head blacker; abdomen with darker dorsal blue stripe, the transverse bands darker: primaries below with the outer border much more dusky; secondaries with the outer band more dusky. Expanse of wings 3 inches 5 lines to 4 inches 10 lines.

Nagasaki (*Lewis*); Yokohama (*Jonas*); Hong-Kong (*Bowring*); Shanghai, &c.

This species and all the Asiatic forms can readily be distinguished from *A. atropos* by the absence of the black bands on the ventral surface of the abdomen.

DILUDIA, *Grote.*

Diludia discistriga. (Plate XLI. fig. 6.)

Macrosila discistriga, *Walker, Cat. Lep. Het.* viii. p. 209 (1856).

Brownish ash-colour: primaries with a broad angulated, dark-edged, dusky central band, its outer edge sinuated and followed by a sinuated brown-edged white stripe; a longitudinal whitish streak just above the submedian vein, and above it across the basal area a dusky-bordered, whitish, angulated band; a black-bordered apical greyish patch, with dusky centre and deeply notched anterior margin; six white-bordered black spots in pairs, and followed by single brown spots, near the outer margin; fringe white, spotted with brown: secondaries smoky brown, with ill-defined paler discal belt; the costal area, base, an abdominal marginal streak, and the sinuations of the fringe whitish: body whitish at the sides, thorax with an interrupted black border; abdomen with central and lateral longitudinal black stripes. Wings below greyish, more uniform in tint than above, with two transverse parallel lines and a submarginal band dusky; body below whitish. Expanse of wings 3 inches 5 lines.

Hong-Kong (*Bowring*); North China (*Cuming*); Borneo (*Low*); Java (*Horsfield*).

The type seems to be a dwarfed specimen, unless the example from "North China" and those from Borneo are distinct.

Diludia increta. (Plate XLI. fig. 7.)

Anceryx increta, *Walker*, *Cat. Lep. Het. Suppl.* i. p. 36 (1864).

Nearly allied to the preceding species, but greyer, and with less sharply defined markings; the black median streaks broader and better defined; under surface of wings smoky brown, with two parallel dusky belts and a broad dusky border; fringe white, spotted with blackish; secondaries with pearly white abdominal border; body below pure white. Expanse of wings 4 inches 2 lines.

Shanghai; North China (*Fortune*); Yokohama (*Jonas*).

In the "Revision of the Sphingidæ" (Trans. Zool. Soc. vol. ix. p. 616) this species was erroneously identified, from Japanese drawings, with *D. vates*, and the transformations were figured under that name; the specimens obtained by Mr. Jonas at Yokohama have brought this mistake to light.

ZYGÆNIDÆ.

SYNTOMIS, *Ochs.*

Syntomis annetta. (Plate XLII. fig. 1.)

Syntomis annetta, *Butler*, *Journ. Linn. Soc., Zool.* vol. xii. p. 347 (1876).
Syntomis atereus ?, *Walker* (nec *Cramer*), *Cat. Lep. Het.* i. p. 128 (1854).

Above dark brown: primaries with a small spot near the base, two large spots at the middle, and two large bifid spots on the disk transparent white; secondaries with the basal half, excepting the costal margin, transparent white: body purplish; antennæ whitish towards the tips; abdomen with a transverse basal bar and a belt round the subterminal segment, yellow; anus testaceous; anterior coxæ cream-coloured. Expanse of wings 1 inch.

China (*Lay & Bowring*).

BALATÆA, *Walker.*

Balatæa ægerioides. (Plate XLII. fig. 2.)

Balatæa ægerioides, *Walker*, *Cat. Lep. Het. Suppl.* i. p. 110 (1864).

Primaries above purplish black; an oblong spot near the base, a short subcostal dash just before the middle, and two bifid spots placed obliquely upon the disk golden ochraceous; a steel-blue spot at base; fringe white: secondaries greyish hyaline, with narrow blackish borders and black veins; antennæ steel-blue; thorax dark metallic green; abdomen purplish black, with dark green margins to the segments: under surface paler, abdomen bluish. Expanse of wings 1 inch.

North China.

BINTHA, *Walker.*

Bintha gracilis. (Plate XLII. fig. 3.)

Bintha gracilis, *Walker*, *Cat. Lep. Het. Suppl.* i. p. 127 (1864).

Primaries above purplish brown; a narrow longitudinal dash near the base, a second near the middle of the costal area, and four of unequal length placed obliquely in pairs upon the disk stramineous; base of costa bronzy green; fringe testaceous internally and white externally, with a brown intervening line: secondaries greyish hyaline, with opaline reflections; a moderately broad border and the veins smoky brown; costal margin white: antennæ steel-blue; thorax bronzy green; abdomen purplish black, with bronzy green margins to the segments; tibiæ and under surface of tarsi of posterior legs pearly white: under surface paler; pectus bright plumbaginous (colour of galena); venter greenish plumbaginous, with lateral cream-coloured dots and anal tufts. Expanse of wings 11 lines.

Japan (*Fortune*); Yokohama (*Jonas*).

ARCTIIDÆ.

PHISSAMA, *Moore.*

Phissama vacillans. (Plate XLII. fig. 4.)

Amphissa vacillans, *Walker*, *Cat. Lep. Het.* iii. p. 685 (1855).

Wings above pale greyish brown: primaries with white costal border; three black dots at the end of the cell and two on the disk: secondaries semihyaline excepting at the borders; the anal half of the fringe white: head and thorax white; abdomen bright yellow, with lateral and dorsal rows of black dots; anal tufts white: under surface brown, with the venter sordid white. Expanse of wings 1 inch 7 lines.

Hong-Kong (*Harrington*); Sarawak (*Wallace*).

If the species figured by Mr. Moore be a male, it is certainly distinct from *A. vacillans*; it, however, looks more like a female in the figure.

SPILOSOMA, *Stephens.*

Spilosoma sangaica. (Plate XLII. fig. 5.)

Spilosoma sangaica, *Walker*, *Cat. Lep. Het. Suppl.* i. p. 294 (1864).

White; primaries with the basal two thirds dotted with ten black dots; an oblique black dash of almost confluent dots; abdomen ochreous in the centre, with dorsal and lateral series of black dots; palpi with black terminal joint; coxæ and femora of anterior legs ochreous, knees black; tibiæ and tarsi brown below; venter cream-coloured, with lateral series of black

spots; black dots on the under surface of primaries ill-defined excepting at apex. Expanse of wings 1 inch 5 lines.

Shanghai.

Walker's measurement of this species is entirely incorrect; the "black point" on each side of the thorax, mentioned in his description, is due to abrasion.

SPILARCTIA, *Butler*.

This genus principally differs from *Spilosoma* in the greater distance between the emission of the first and second median branches of the primaries, the longer and more deeply fringed tegulæ, and generally longer palpi: of the species originally associated under it, *S. lativitta* and *S. flavalis* of Moore might readily be separated as a distinct genus.

Spilarctia ione. (Plate XLII. fig. 6.)

♀. Spilarctia ione, *Butler, Cist. Ent.* ii. p. 41 (1875).

Creamy white; abdomen rosy, with dorsal and lateral blackish dots; anal segments ochraceous; antennæ black: secondaries with a small black discocellular spot, a second spot on the discoidal interspace and two near anal angle; frons, tips of palpi, tibiæ, and tarsi black-brown; anterior lateral margin of pectus and femora carmine; venter with a few lateral blackish points: primaries below with a blackish discocellular spot, a few dots near apex, an oblique streak from interno-median to discoidal interspace, and a nebulous longitudinal interno-median patch greyish brown; secondaries with the blackish spots less defined than above. Expanse of wings 1 inch 10 lines.

Hakodaté (*Whitely*).

Spilarctia mollicula. (Plate XLII. fig. 7.)

♀. Spilarctia mollicula, *Butler, Ann. & Mag. Nat. Hist.* ser. 4, vol. xx. p. 395. n. 7 (1877).

Pinky cream-colour; primaries with a dot in the centre of the costa, a spot at the superior angle of the cell, and another in the discoidal interspace blackish; secondaries with a spot on the upper discocellular, a second near the apex, and three near the anal angle blackish; margins of collar and eyes and the anterior coxæ rose-red; abdomen rose-red, yellow at the anal extremity; three or four dorsal black dots: wings and body below creamy whitish; the smaller spots indistinct. Expanse of wings 1 inch 11 lines.

Hakodaté (*Whitely*).

Spilarctia subcarnea. (Plate XLII. fig. 8.)

Spilosoma subcarnea, *Walker, Cat. Lep. Het.* iii. p. 675. n. 25 (1855).

Primaries and thorax above cream-coloured; secondaries white with a creamy tint, a blackish spot on the interno-median interspace near the outer margin; abdomen rose-red,

white at the base and anus, a dorsal series of black spots; palpi externally rose-red, with black tips; anterior coxæ and upper surface of all the femora bright red; knees and tarsi banded with black: primaries below with the costal border slightly ochraceous and with a subbasal red diffused streak; a black discocellular dot, two subapical dots, and an oblique series of four spots across the median branches black; secondaries with a black discocellular spot, a spot on the discoidal interspace, and a third larger one on the interno-median interspace. Expanse of wings 2 inches 3 lines.

Hong-Kong (*Bowring*).

EUPREPIA, *Ochs.*

Euprepia phæosoma. (Plate XLII. fig. 10.)

Euprepia phæosoma, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 4, vol. xx. p. 395. n. 8 (1877).

♀. General pattern and coloration of *E. caja*, but the white banding of the primaries more simple, the secondaries paler at the base, with the spots fewer and not bordered with yellow; the anterior half of the collar red, with a white spot at the lateral angles; outer margin of the tegulæ white; abdomen brown, with the hind margins of the segments rose-red. Expanse of wings 2 inches 8 lines.

Yokohama (*Jonas*).

Readily distinguished from *E. caja* by the colour of the body.

THANATARCTIA, *Butler.*

Thanatarctia infernalis. (Plate XLII. fig. 9.)

Thanatarctia infernalis, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 4, vol. xx. p. 395. n. 9 (1877).

Wings and thorax black-brown; margins of collar, eyes, palpi, and the pectus rose-red; abdomen rose-red, with a dorsal series of black spots. Expanse of wings 1 inch 5 lines.

Hakodaté.

LITHOSIIDÆ.

MILTOCHRISTA, *Hübner.*

Miltochrista inscripta. (Plate XLII. fig. 11.)

♀. Sesapa inscripta, *Walker*, *Cat. Lep. Het.* ii. p. 547 (1854).

Primaries above chalky white, costal and external borders rose-coloured; three blackish lines across the wing, the two first transverse, subparallel, dentate-sinuate, the third oblique and deeply dentated; two oblique blackish dashes just beyond the cell and seven in a regular curved series parallel to the outer margin; secondaries rosy: head white, with two black spots;

thorax white, collar and tegulæ spotted with red; a black dot on each shoulder; abdomen pale greyish brown, whitish at the base; pectus white; venter blackish, with testaceous anal segments: primaries below rosy, deepest upon the borders; the markings as above, but obscured by a greyish suffusion; secondaries as above. Expanse of wings 1 inch 2 lines.

North China (*Fortune*).

The insect described by Walker as the male seems to be *S. erubescens*, but the two species were not associated in the cabinet and are very distinct.

Miltochrista rhodophila. (Plate XLII. fig. 12.)

Barsine rhodophila, *Walker*, *Cat. Lep. Het. Suppl.* i. p. 254 (1864).

Rosy; primaries with darker costal and external margins; a triangular blackish patch intersected by rosy veins near the base, and a broad irregular belt beyond the middle intersected by the veins, and interrupted at the end of the cell by a rosy spot; fringes yellowish; tibiæ terminating in blackish spots: body below yellow; wings below rather paler than above. Expanse of wings 1 inch 1 line.

Shanghai; Mongolia.

COLLITA, *Moore*.

Collita ægrota. (Plate XLII. fig. 13.)

Lithosia ægrota, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 4, vol. xx. p. 397 (1877).

Primaries above shining grey, with stramineous costa and fringe; secondaries clear stramineous; thorax grey, with stramineous head and shoulders; abdomen stramineous, greyish at the base: primaries below dark grey; costa ochreous, outer border broadly clear stramineous; secondaries and under surface of body stramineous; legs black. Expanse of wings 1 inch 5 lines.

Hakodaté (*Whitely*).

TATARGYNA, *Butler*.

Tatargyna formosa. (Plate XLIII. fig. 1.)

Tatargyna formosa, *Butler*, *Trans. Ent. Soc.* 1877, p. 366. n. 280.

Deiopeia picta, var. β, *Walker*, *Cat. Lep. Het. Suppl.* i. p. 264 (1864).

Allied to *T. picta*, but with the white-bordered grey bands of primaries broader, more oblique, and less angular; the secondaries with four more or less interrupted costal bands; a spot at the inferior angle of the cell, a second on the middle of the first median branch, and an irregular interrupted litura across the interno-median interspace. Expanse of wings 2 inches 2 lines.

South China (*Seemann*).

NOLA, *Leach*.

Nola fumosa. (Plate XLIII. fig. 2.)

Allied to *N. togatulalis* of Europe: the primaries smoky grey, with a dusky subbasal transverse stripe; a broad irregular eentral dusky belt, enelosing a blaekish spot, on the discocellulars and a zigzag dusky submarginal line, beyond which the external area is slightly dusky; outer margin dusky: seeondaries paler than the primaries, immaeulate: body grey; the thorax darker than the head or abdomen; under surfaee grey, without markings. Expanse of wings 10 lines.

Yokohama (*Jonas*).

Nola candida. (Plate XLIII. fig. 3.)

Allied to *N. centonalis* of Europe: silvcry white, the primaries with a subbasal brown nebula, upon whieh are two or three blaek dots and a few metallic seales; a nearly central transverse brown-edged greyish band, enelosing a white discocellular spot encircled by a blaek line and a few metallic seales; a ≼-shaped discal greyish-brown line, a few grey spots beyond it; outer border greyish, bounded by black dots; fringe greyish, white internally; costal three fourths of primaries below and eostal margin of secondaries brownish. Expanse of wings 8 lines.

Yokohama (*Jonas*).

CHALCOSIIDÆ.

RETINA, *Walker*.

Retina costata. (Plate XLIII. fig. 7.)

Retina costata, *Walker*, *Cat. Lep. Het.* ii. p. 439. n. 2 (1854).

Blaek; head and eollar rosy; shoulders pale rosy; a rose-coloured band beginning at the base of costa, whieh it borders for two thirds of its length and then runs obliquely downwards to the external angle: legs castaneous. Expanse of wings 1 ineh 11 lines.

North China (*Cuming*).

LIPARIDÆ.

LÆLIA, *Stephens*.

Lælia sinensis. (Plate XLIII. fig. 8.)

Lælia sinensis, *Walker*, *Cat. Lep. Het.* iv. p. 829. n. 3 (1855).
Leucoma brevicornis, *Walker*, *l. c.* vii. p. 1729 (1856).

♂. Creamy white, abdomen brownish; crest yellowish; base of palpi, anterior coxæ, under surface of legs, and antennæ brownish. Expanse of wings 1 inch 5 lines.

Hong-Kong (*Champion*).

PANTANA, *Walker.*

Pantana ampla. (Plate XLIII. fig. 9.)

Pantana ampla, *Walker, Cat. Lep. Het.* iv. p. 820. n. 3 (1855).

Primaries above testaceous, semitransparent behind; a greyish oblique streak across the cell and a second towards apex; apex dusky: secondaries white and semitransparent: body greyish in front, testaceous behind; antennæ blackish. Primaries below with the costal half orange to beyond the cell, with a bilobed subapical blackish patch; apex and costal margin reddish brown; internal half white: secondaries and under surface of body white. Expanse of wings 1 inch 7 lines.

Hong-Kong (*Champion*); Hainan.

NOTODONTIDÆ.

HYLOPHILA, *Hübn.*

Hylophila sylpha. (Plate XLIII. fig. 10.)

Allied to *H. prasinana*: primaries above shining sap-green, crossed by two parallel white-bordered oblique darker lines; costa pale sulphur-yellow, inner margin brighter sulphur-yellow; fringe silvery white, spotted with red: secondaries silvery white: thorax green, antennæ reddish; abdomen white, with two converging tufts of yellow hair at the base: under surface silvery white. Expanse of wings 1 inch 7 lines.

Yokohama (*Jonas*).

CERURA, *Schrank.*

Cerura lanigera. (Plate XLIII. fig. 11.)

Cerura lanigera, *Butler, Ann. & Mag. Nat. Hist.* ser. 4, vol. xx. p. 474 (1877).

Nearly allied to *C. furcula*, but the discal area of primaries clouded with grey; the central band blackish, constricted in the middle, its inner edge being angulated; the ochreous scales replaced by a few scattered stramineous scales; the outer discal lunate line replaced by well-defined blackish lunate spots; external area (excepting the margin) greyish in all the wings: body whiter, with blacker abdominal bands; under surface of wings considerably darker. Expanse of wings 2 inches.

Hakodaté (*Whitely*).

SATURNIIDÆ.

ATTACUS, *Linn.*

Attacus pryeri. (Plate XLIII. fig. 5.)

Attacus pryeri, *Butler*, *Proc. Zool. Soc.* 1878, p. 387. n. 18.

Allied to *A. walkeri* of Felder from N. China, but darker than any of the species of the *A. cynthia* group; olive-brown, with paler borders and the usual submarginal lines; the pale belt (bounding the dark angulated central line externally) white inwardly, pinky whitish and diffused outwardly, with no defined intersecting stripe as in all the allied species; the maggot-like markings, basal white belts, and the apical markings of primaries as in *A. walkeri*. Expanse of wings ♂ 5 inches 10 lines, ♀ 6 inches 2 lines.

Yokohama (*Jonas*).

LIMACODIDÆ.

DATANOIDES, *Butler.*

Datanoides fasciata. (Plate XLIII. fig. 4.)

Datanoides fasciata, *Butler*, *Ent. Month. Mag.* xiv. p. 207 (1878).

Primaries above pale sericeous rosy brown, with a broad central belt, widest upon costal margin, limited by white lines, which are followed toward the base and on the disk by bronze-brown belts; outer margin wavy, with a white marginal line; fringe brown, intersected by a black line; two black dots, enclosed by an 8-shaped white marking, at the end of the cell: secondaries greyish, with pale rosy-brown outer border; fringe whitish, black-spotted towards apex: body pale rosy brown; anus ferruginous, head and collar greyish. Under surface pale ferruginous, crossed by a dusky discal line; secondaries with the internomedian area greyish. Expanse of wings 1 inch 5 lines.

Yokohama (*Jonas*).

PHRIXOLEPIA, *Butler.*

Phrixolepia sericea. (Plate XLIII. fig. 6.)

Phrixolepia sericea, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 4, vol. xx. p. 476 (1877).

Primaries shining ferruginous or cupreous-brown, crossed obliquely by an angulated white line, which, towards the inner margin, is bounded internally by a shade of deeper colour and externally by grey; costal margin yellow, fringe white: secondaries shining

brown, fringe white: thorax chocolate-brown; abdomen greyish, with yellow anal tuft. Under surface shining whity brown; primaries slightly greyish, with yellowish costa. Expanse of wings 1 inch 1 line.

Yokohama (*Jonas*).

CYMATOPHORIDÆ.

GONOPHORA, *Bruand.*

Gonophora derasoides. (Plate XLIV. fig. 1.)

Gonophora derasoides, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 77 (1878).

Nearly allied to *G. derasa*, but greyer, the markings (particularly upon the white costal streak of primaries) less defined; the reniform and other discoidal spots narrower and more transverse; the area between the oblique white stripe and the zigzag lines pale stramineous, with darker and lunated spots upon it; the zigzag lines wider apart, only three in number; the outer border white; the intersected semicircular marginal spots pale buff instead of ferruginous; the outer border of the secondaries white instead of yellowish. Expanse of wings 1 inch 8 lines.

Hakodaté (*Whitely*).

BOMBYCOIDÆ.

ACRONYCTA, *Ochs.*

Acronycta leucocuspis. (Plate XLIV. fig. 2.)

Acronycta leucocuspis, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 78 (1878).

Closely allied to *A. cuspis*, but the primaries of a darker grey tint, and the secondaries white with grey veins instead of greyish brown; the discal line and external border darkest upon the veins; thorax much darker; abdomen grey to the base. Expanse of wings 1 inch 9 lines.

Yokohama (*Jonas*).

Acronycta increta. (Plate XLIV. fig. 3.)

Acronycta increta, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 78 (1878).

Closely allied to *A. tridens*, but noticeably larger, the primaries much darker and sericeous, the fringe shorter, less distinctly black-spotted; secondaries similar. Expanse of wings 1 inch 10 lines.

Yokohama (*Jonas*).

LEUCANIIDÆ.

LEUCANIA, *Ochs.*

Leucania ærata. (Plate XLIV. fig. 4.)

Leucania ærata, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 80 (1878).

Primaries above brassy brownish, a longitudinal streak along the median vein, and a subapical dash dark brown; a spot in the eell, a discal angulated series and a marginal series blaek; reniform spot palc yellowish; fringe greyish externally: seeondaries ereamy white, with a feebly indicated discal series of dots and a submarginal streak dusky; a marginal series of blaek dots: thorax reddish brown; abdomen sordid whitish. Wings below shining cream-eolour; a black dot at the end of thc eell, and a marginal series, largest and most eontinuous on primaries; the apieal, diseoidal, and diseomedian areas of primaries and a streak near the external angle greyish: body below whity brown, becoming darker towards the head; palpi and anterior coxæ smoky brown. Expanse of wings 1 ineh 7 lines.

Hakodaté (*Whitely*).

ALYSIA, *Guénée.*

Alysia grisea. (Plate XLIV. fig. 5.)

Alysia grisea, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 82 (1878).

Greyish brown, with a shining eupreous tinge: primaries above with the external two fifths darker than the rest of the wing, the orbieular and reniform spots also darker; an ill-defined annular spot on a darker nebula near the base of the eell; eosta spotted with darker eolour; three white eostal dots near the apex; a pateh of the ground-colour at the apex, bounded on the eosta by a small white dash; indieations of a diseal series of dark-bordered pale spots; a series of blaek marginal lunules; fringe pale: seeondaries, with the exeeption of a broad external border, mueh paler than the primaries: thorax darker than the abdomen, head and antennæ pale. Under surface pale; an irregular greyish disco-submarginal faseia; body below whity brown, the pectus dusky in front. Expanse of wings 2 inches 1 line.

Yokohama (*Jonas*).

GLOTTULIDÆ.

DANDACA, *Walker.*

Dandaca senex. (Plate XLIV. fig. 6.)

Dandaca senex, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 82 (1878).

Primaries above pale bluish grey, becoming greenish upon the eosta and at base; basal area crossed by an ill-defined sprinkling of raised white scales; a spot in the cell, the margins

of the reniform spot (which is indicated by a black litura), a sigmoidal discal stripe, a subapical spot and zigzag submarginal line, all of raised white scales; a black irregular line across the basal area; two central slender black lines, the outer one deeply dentated; a ≻-shaped black marking and two spots near the external angle; costa black-spotted; fringe white, spotted with brownish: secondaries sericeous greyish brown, with a broad pale-edged blackish outer border; fringe pale; margin black-dotted: thorax greenish grey; abdomen sericeous whitish. Wings below whity brown, with a broad black-edged irregular discal band; outer border broadly blackish; body below whitish. Expanse of wings 1 inch 8 lines.

Yokohama (*Jonas*).

NOCTUIDÆ.

AGROTIS, *Ochs.*

Agrotis illoba. (Plate XLIV. fig. 7.)

Agrotis illoba, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 162 (1878).

Nearly allied to *A. agricola*, but altogether of a duller and greyer tint; the markings better defined; a well-marked waved dentate-sinuate discal dusky line; submarginal area bounded internally by a very irregular zigzag pale line; secondaries whiter than in *A. agricola*; thorax pearly greyish; anal tuft testaceous: secondaries below with dusky costal and apical areas; a well-defined blackish discocellular spot. Expanse of wings 1 inch 10 lines.

Hakodaté (*Whitely*).

Agrotis odiosa. (Plate XLIV. fig. 8.)

Agrotis odiosa, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 162 (1878).

Colour and general character of the reddish form of *A. saucia*, but smaller, the orbicular and reniform spots ill-defined and red; the secondaries shining whity brown, with no distinct darker border and without the blackish dots on the veins below. Expanse of wings 1 inch 8 lines.

Yokohama (*Jonas*).

HERMONASSA, *Walker.*

Hermonassa cecilia. (Plate XLIV. fig. 9.)

Hermonassa cecilia, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 164 (1878).

Upper surface chocolate-brown: primaries darker than the secondaries; costal margin ferruginous; orbicular and reniform spots and a spot below the median vein blackish, with ochreous margins partly edged with black; costal and basal areas spotted with black, the interval between each two spots grey; an oblique ochreous dash across the cell near the base;

two straight grey lines across the basal area; two parallel arched series of greyish crescents partly edged with black; a submarginal series of black dots; fringe greyish: secondaries with pale grey fringe traversed by a dusky stripe: thorax tufted with testaceous; prothorax with a blackish margin and a whitish-tipped fringe; collar testaceous behind; tegulæ blackish, with grey border; abdomen fuliginous. Under surface paler, greyer: primaries shining, with fulvous costa, crossed near apex by two divergent blackish lituræ; margin alternately testaceous and black: secondaries with blackish-speckled costal area: legs banded with testaceous. Expanse of wings 1 inch 7-8 lines.

Yokohama (*Jonas*).

GRAPHIPHORA, *Ochs.*

Graphiphora caliginea. (Plate XLIV. fig. 10.)

Graphiphora caliginea, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 165 (1878).

Allied to *G. sigma*, but with narrower and longer wings: primaries above sepia-brown, with the costal area slightly greyer or redder, but not sharply defined as in *G. sigma*; the discoidal markings less strongly defined; the angular discal stripe less lunated in its divisions and more uniform in width: secondaries sordid shining white instead of brown: the thorax scarcely darker than the abdomen; the head and collar whitish instead of reddish: under surface shining whitish; the primaries with a transverse discal line, twice as far from the margin as in *G. sigma*; secondaries with the discocellular spot barely indicated and the discal line only visible on the costal area. Expanse of wings 1 inch 11 lines.

Hakodaté (*Whitely*).

ORTHOSIIDÆ.

DASYCAMPA, *Guénée.*

Dasycampa fornax. (Plate XLIV. fig. 11.)

Dasycampa fornax, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 168 (1878).

Nearly allied to *D. rubiginea*, but slightly larger, altogether redder; the lines and dots on the primaries less sharply defined, greyer; secondaries paler greyish, with distinctly rosy borders; abdomen pale at the base, otherwise rosy: primaries below redder, without the black discocellular spots or greyish nebula, the other markings ill-defined; secondaries redder, the discal line more irregular and less defined: body below altogether redder, especially in front. Expanse of wings 1 inch 6 lines.

Yokohama (*Jonas*).

HADENIDÆ.

PHLOGOPHORA, *Ochs.*

Phlogophora beatrix. (Plate XLIV. fig. 12.)

Phlogophora beatrix, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 193 (1878).

Closely allied to *P. iris,* larger; more stramineous; the wings broader in proportion; primaries with the darker markings more olivaceous; outer border not reddish; the margin distinctly dentate-sinuate; the fringe tawny; a marginal series of black lunules; the discal streaks nearest to the margin slender and dentate-sinuate; the two inner discal lines more slender, wider apart, and less angular; the central patch with convex (not angular) front margin; the discoidal spots less oblique; the secondaries clearer, yellower, the lines on the disk abbreviated and fainter: under surface clear stramineous, with an abbreviated discal line halfway between the cell and apex; fringe of primaries tipped with blackish. Expanse of wings 2 inches.

Hakodaté (*Whitely*).

APLECTOIDES, *Butler.*

Aplectoides nitida. (Plate XLV. fig. 1.)

Aplectoides nitida, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 194 (1878).

Allied to *A. condita,* much larger: primaries shining silver-grey, with black lines and white spots; lines towards the base nearly straight below the median vein; orbicular spot small, clouded, distinctly black-bordered; reniform spot clouded, indistinct in front, because immediately followed by a patch of white, through which the sinuated portion of the discal black line passes; the latter succeeded by a less distinct parallel line from the costa to the third median branch; externo-discal white limitation of the outer border much less defined than in *A. condita,* partly black-bordered; a longitudinal black dash, just above the third median branch, from the reniform spot to the outer border; fringe and apical costa brown: secondaries smoky brown, fringe greyish: thorax white, collar with a broad blackish band in front; metathorax and tegulæ crossed by two black belts; frons black; palpi black, whitish internally; abdomen fuliginous. Under surface fuliginous, paler towards the base of the wings; a dusky transverse discal stripe, angulated in primaries; marginal line black; apical costa and fringe of primaries tinted with tawny, the rest of the fringe alternately sordid white and blackish: legs black; femora and tibiæ clothed with greyish hairs, tibiæ and tarsi banded with white. Expanse of wings 2 inches 1 line.

Yokohama (*Jonas*).

EUROIS, *Hübner.*

Eurois virens. (Plate XLV. fig. 5.)

Eurois virens, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 194 (1878).

Primaries bright sap-green, with the usual spots; internal border, veins, and fringe brown; costal border irrorated and spotted with black, the spots arranged in pairs, with paler green between them; discoidal spots margined with whitish and black, the reniform spot varied with red, deeply excised in front, the inner spot quadrate; two black lunules below the last-mentioned spot and crossing the interno-median area; an angular discal series of black-edged pale green lunules; a submarginal series of black and green spots; the area between the two series olivaceous; a marginal series of conical black spots; fringe pinky white at the base: secondaries grey, becoming smoky brown towards the outer margin; fringe pure white: head, collar, and tegulæ sap-green, black-spotted; rest of the body greyish, with testaceous anal tuft: under surface greyish brown; wings sericeous, with a dark transverse discal stripe; primaries with pale-yellowish costa; internal area silvery grey; secondaries with white fringe. Expanse of wings 2 inches 4 lines.

Hakodaté (*Whitely*).

HADENA, *Treit.*

Hadena lucia. (Plate XLV. fig. 2.)

Hadena lucia, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 195 (1878).

Allied to *H. atriplicis*, but the primaries above with an abbreviated white band from the costa to the middle of the interno-median interspace (instead of the bifid white spot at the base of the first median branch); greenish markings paler and clearer; apical border white; the black marginal spots less distinct from the brown fringe-spots; the other dark markings less sharply defined; secondaries more sericeous, with the basal half decidedly paler; abdomen paler. Expanse of wings 1 inch 11 lines.

Hakodaté (*Whitely*).

XYLINIDÆ.

XYLINA, *Ochs.*

Xylina arctipennis. (Plate XLV. fig. 3.)

Xylina arctipennis, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 198 (1878).

Primaries silvery grey: the base, a central irregular black-edged band, a transverse discal stripe, and the outer border rather paler and greyer than the rest of the wing; a basal dot, a second at the inferior angle of the cell, a disco-submarginal series, a series of marginal lituræ,

and a short oblique apical line black; fringe intersected by a slightly darker line: secondaries shining sordid white, with a broad pale brown external border; fringe white; thorax greyish brown, antennæ ferruginous; abdomen paler, whitish at the base and with a black dorsal tuft: primaries below pale shining brown, becoming whitish towards the inner margin; costa beyond the cell dotted with black and whitish; secondaries silvery white, with a whity-brown costal spot and a discal stripe of the same colour; pectus creamy white, changing in front to smoky brown; venter testaceous. Expanse of wings 1 inch 7 lines.

Yokohama (*Jonas*).

LITHOPHANE, *Hübner*.

Lithophane saga. (Plate XLV. fig. 9.)

Lithophane saga, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 198 (1878).

Primaries grey, with numerous black and brown dashes, four in the centre of the costa oblique, two near external angle also oblique, but slanting upwards, the remainder longitudinal; a dusky oblique streak from the outer margin near the apex to the external third of the inner margin; reniform spot barely perceptible; an acutely undulated oblique discal line, arched towards the costa, the external undulations partly filled in by black spots: secondaries with the basal half sordid white, crossed by brown veins; external half occupied by a very broad smoky-brown border, upon which the veins look black; fringe sordid white: head grey, with black spots behind the eyes; collar brown, with a central transverse black-edged grey belt; thorax grey, with a brown streak on each side; abdomen whity brown, with dark dorsal tufts. Primaries below smoky brown, the basal area and apical border pale; secondaries white, the costal area and outer margin sordid; a broad brown external band, a black spot at the end of the cell, and a discal series of black dots on the veins; pectus pale greyish; venter sordid white. Expanse of wings 2 inches 4 lines.

Yokohama (*Jonas*).

CUCULLIA, *Ochs.*

Cucullia fraterna. (Plate XLV. fig. 10.)

Cucullia fraterna, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 198 (1878).

Nearly allied to *C. lucifuga*, but the primaries duller, with the spot in the cell black, compressed and elongated; secondaries pure white (with the veins and outer border brown, and the costal area brownish, as in *C. lucifuga*). Expanse of wings 2 inches 1 line.

Hakodaté (*Whitely*).

HELIOTHIDÆ.

HELIOTHIS, *Guénée.*

Heliothis adaucta. (Plate XLV. fig. 4.)

Heliothis adaucta, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 199 (1878).

Closely allied to *H. dipsacea,* but much larger, the primaries and thorax of a more sandy whitish tint, with the markings rather darker; the secondaries whiter, with blacker markings, the spot closing the cell broader: body less reddish in tint; under surface with all the markings much more distinct. Expanse of wings 1 inch 5–6 lines.

Yokohama (*Jonas*); Hakodaté (*Whitely*).

HÆMEROSIIDÆ.

ARIOLA, *Walker.*

Ariola pulchra. (Plate XLV. fig. 6.)

Primaries cupreous brown, crossed from base to outer border by four slaty-grey streaks; outer border also slaty grey, bounded on both sides by small black dots; fringe rather more golden than the ground-colour of the wings: secondaries smoky brown, with whitish costal area; fringe whity brown, traversed by a darker brown line: head, collar, and thorax cupreous brown, the centre of the vertex yellowish; tegulæ slaty grey; abdomen smoky brown. Under surface of wings greyish brown, with pale costal and external borders, fulvous in the primaries, testaceous in the secondaries: body below testaceous. Expanse of wings 11 lines.

Yokohama (*Jonas*).

ACONTIIDÆ.

ACONTIA, *Ochs.*

Acontia biplagiata. (Plate XLV. fig. 7.)

Acontia biplaga, *Walker* (*nec Guénée*), *Cat. Lep. Het.* xii. p. 795. n. 34 (1857).
Acontia biplagiata, *Walker, l. c. Suppl.* iii. p. 781 (1865).

Silvery white: primaries above with an oblique golden brown band from the basal two fifths of the costal margin to just below the median vein, where it meets a large nebulous triangular fuliginous patch, the base of which is upon the outer margin; reniform spot outlined in dark brown; apex and two or three confused lines on the margin and fringe smoky

brown; a large cupreous patch across the apical area, in shape nearly semicircular; a slender interrupted blackish submarginal line, the first and fifth divisions of which are expanded into small black spots: secondaries tinted with creamy yellowish; a submarginal grey stripe. Under surface shining cream-colour; primaries with a trace of the reniform spot and with a marginal row of black dots; otherwise immaculate. Expanse of wings 1 inch 4 lines.

North China (*Fortune*); Nankow Pass (*Swinhoe*).

Acontia bimacula. (Plate XLV. fig. 8.)

Acontia bimacula, *Walker, Cat. Lep. Het.* xii. p. 796. n. 38 (1857).

Silvery white: primaries above with the costal and external borders slightly yellowish; four black costal dots at regular intervals between the base and the end of the cell and followed by an abbreviated forked stripe of almost a *y* shape, from either side of which to the inner margin run two testaceous discal streaks, wavy and indistinct, and between them a series of small blackish dots; a submarginal black line, cut into short pieces by the white veins; a pale ochraceous or dead golden line: secondaries with slightly yellowish fringe; a few minute black dots on the margin; crest of the frons dark brown. Primaries below with two or three brown costal dots beyond the middle; secondaries with two or three black dots as above; no other markings. Expanse of wings 1 inch 3 lines.

Hong-Kong (*Bowring*).

Acontia maculosa. (Plate XLVI. fig. 1.)

Acontia maculosa, *Walker, Cat. Lep. Het.* xii. p. 795. n. 35 (1857).

Primaries above white, spotted with olive-green; discoidal spots purplish, with white centres; a broad oblique undulating purplish-brown discal belt, dilated towards the inner margin; a series of seven marginal black dots, the third, fourth, and seventh larger than the others and followed on the fringe by dusky spots; fringe at apex dusky: secondaries shining pearly pale brown, with dusky border; fringe testaceous, with its external two thirds dusky from the second median branch to the apex: body white, tegulæ and abdomen banded with pale fuliginous: under surface pale shining stramineous, primaries clouded with blackish; fringe white, black-spotted. Expanse of wings 10 lines.

China (*Harrington*).

ERASTRIIDÆ.

Erastria stygia. (Plate XLVI. fig. 2.)

Erastria stygia, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 199 (1878).

♂. Allied to *E. fuscula*: primaries black, with darker bands and lines as in *E. fuscula*,

the orbicular and reniform spots more or less strongly outlined in white; costa white-spotted, most strongly beyond the middle; a more or less well-marked squamose patch of yellowish scales just beyond the reniform spot; a transverse bracket-like white line followed by a yellowish streak near the external angle; a 3-shaped pale line, bordered outwardly with deep black, near the base; fringe of all the wings white-spotted and with basal and central pale lines: secondaries shining greyish brown. Wings below much as in *E. fuscula,* but darker. Expanse of wings 1 inch 1 line.

Yokohama (*Jonas*).

ERIOPIDÆ.

CALLOPISTRIA, *Hübner*.

Callopistria obscura. (Plate XLVI. fig. 3.)

Callopistria obscura, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 200 (1878).

Allied to *C. pteridis,* but the ground-colour of the primaries sepia-brown, more or less irrorated with tawny, the transverse lines wider apart and bordered by sericeous grey (not rosy lilacine), the veins whiter, the marginal spots narrower and blackish; secondaries rather paler than the primaries, with whitish costa and outer border; body altogether duller and greyer than in *C. pteridis*: primaries below grey, with sandy whitish borders; secondaries sericeous whitish, with greyish subapical spot, discal line, and discocellular spot; body below sandy whitish. Expanse of wings 1 inch 5 lines.

Hakodaté (*Whitely*); Yokohama (*Jonas*).

Callopistria æthiops. (Plate XLVI. fig. 4.)

Callopistria æthiops, *Butler, Ann. & Mag. Nat Hist.* ser. 5, vol. i. p. 200 (1878).

Allied to *C. exotica,* but the primaries almost black, crossed by silvery white lines, the oblique white-edged dash at the end of the cell tapering downwards to a point and almost uniting with the interno-median band, which is oblique, the band across the cell also well marked and oblique, so that the three markings together form a γ; the white apical dash represented by three decreasing oblique white lines, the lowermost of which joins a $\lessgtr$-shaped white figure (replacing the lanceolate mark of *C. exotica*); outer border narrow, black with white edge: secondaries silvery whitish; the veins, an indistinct abbreviated discal line, and a broad diffused outer border greyish: body whitish, collar banded with black; base of tegulæ testaceous, anal tuft ochraceous. Wings below silvery whitish; primaries with the discoidal area and two white-bordered discal streaks greyish; secondaries with the discocellulars and two apical streaks parallel to the outer margin greyish brown; body whitish. Expanse of wings 1 inch 1 line.

Yokohama (*Jonas*).

PLACODIDÆ.

SCEDOPLA, *Butler.*

Scedopla regalis. (Plate XLVI. fig. 5.)

Scedopla regalis, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 201 (1878).

Primaries with the basal two thirds dark brown, shot with purple, external third of a deep sandy yellowish colour; a broad subcentral transverse band indicated by marginal sinuated limiting black lines; a black discocellular litura; disk slightly darker than the outer border, its limit barely visible excepting at costa, sinuated; a submarginal series of minute black dots: secondaries stone-brown; costa white; outer margin and fringe sandy whitish; a series of dusky marginal lituræ: body brown, abdomen greyish. Under surface sandy yellowish; wings with a grey discal line; primaries greyish, excepting at the borders. Expanse of wings 1 inch 3 lines.

Yokohama (*Jonas*).

PLUSIIDÆ.

PLUSIA, *Ochs.*

Plusia jessica. (Plate XLVI. fig. 6.)

Plusia jessica, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 201 (1878).

Allied to *P. ni*, but the primaries darker and more sericeous; a brassy γ instead of the central silvery markings; the discal line rather less irregular; the edge of the outer border rather more irregular, more uniform in tint; a marginal series of pale-edged triangular black spots instead of the marginal lines; secondaries greyer, without the abruptly darker border; thorax darker: wings below greyer, without the pale border. Expanse of wings 1 inch 4 lines.

Yokohama (*Jonas*).

Plusia mikadina. (Plate XLVI. fig. 7.)

Plusia mikadina, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 202 (1878).

Nearly allied to *P. concha*, but rather paler, the golden ⌞-shaped marking of primaries replaced by a larger brassy ↄ; the outer or discal line more deeply sinuated, and the golden patch bounded by it on the inner margin of double the width; all the golden patches paler, the discoidal spots narrower and more angular: wings below much paler, the discal streaks wider apart, the outer one of primaries more strongly angulated. Expanse of wings 1 inch 7 lines.

Hakodaté (*Whitely*); Yokohama (*Jonas*).

DEVA, *Walker.*

Deva splendida. (Plate XLVI. fig. 8.)

Deva splendida, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 203 (1878).

Primaries above greyish brown, speekled here and there with blaek, streaked with shining lilae; eentral area ferruginous, shading into oehraeeous; external area shot with bright cupreous; a bisinuated basal litura, a &-shaped marking above the median vein, a diseal streak, the outer margin, the inner edge of the outer border at apex, and the outer border of the external angle lilaeine; a line from below the eell and an irregular diseal line silvery; a bright silvery *v*-shaped marking at the base of the first median branch; reniform spot eonstrieted, feebly outlined in lilaeine: seeondaries shining brown, with two darker central streaks; fringe whitish-tipped; head and eollar testaeeous, banded with lilae; thorax darker, also banded with lilae; abdomen greyish, whitish at base, with a lilae-tipped blaek and oehraeeous dorsal tuft. Under surfaee not unlike that of *Orœsia emarginata,* but the primaries and the disk of seeondaries darker; these wings also with a well-marked arehed diseal stripe: legs greyish; tarsi blaekish, banded with whitish. Expanse of wings 1 ineh 7 lines.

Hakodaté (*Whitely*).

Several speeies of this genus were plaeed by Mr. Walker under the *Plusiodonta* of Guénée, with whieh some Lepidopterists regard it as synonymous: it differs in the form of the wings and its shorter and more reeurved palpi.

The typieal speeies of *Plusiodonta* have long straight palpi like Deltoids; and the introduetion of several speeies of *Deva* into the genus, eombined with the absence of the typieal speeies, has been the eause of an error in naming one of the Japanese speeies; "*Platydia casta,*" whieh resembles a Deltoid, being in reality a typieal *Plusiodonta.*

AMPHIPYRIDÆ.

AMPHIPYRA, *Ochs.*

Amphipyra erebina. (Plate XLVI. fig. 12.)

Amphipyra erebina, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 287 (1878).

Allied to *A. perflua,* but rather smaller, more serieeous; the primaries with the inner zigzag stripe obseured, the outer stripe tinted with brown and not so regularly dentate-sinuate, the external area greyer, with the markings less distinet; a blaekish lunate subapieal pateh: seeondaries dark grey instead of pale brown; fringe and edge of margin sordid whitish. Wings below streaked with grey, the diseal band darker and more sharply defined; the diseoeellular spot of primaries dark brown, ill-defined, that of seeondaries blaek; a broad submarginal greyish-brown band, diffused internally on the primaries. Expanse of wings 2 inehes 1 line.

Yokohama (*Jonas*); Hakodaté (*Whitely*).

NÆNIA, *Steph.*

Nænia muscosa. (Plate XLVI. fig. 9.)

Nænia muscosa, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 290 (1878).

Primaries sericeous greyish brown, with darker and paler markings much as in *N. typica*, but with the orbicular and reniform spots, a basal spot, a subbasal interno-median spot, and a spot near external angle pale greenish; inner geminate line much more undulated, submarginal black-edged whitish line strongly dentated, the centre forming two ≶-shaped characters: secondaries sericeous grey, with darker central line and outer border; fringe as in *N. typica*: thorax pale testaceous, the collar sordid whitish at the base on each side, and surrounded by semicircular blackish lines; abdomen greyish. Wings below pale sericeous whity brown, the disk greyish; two dark grey discal lines; marginal black lituræ; fringe with an interrupted central grey stripe; secondaries whitish at the base; a blackish spot at the end of the cell. Expanse of wings 1 inch 8 lines.

Yokohama (*Jonas*).

HYPOGRAMMIDÆ.

GERBATHA, *Walker.*

Gerbatha ypsilon. (Plate XLVII. fig. 1.)

Grey: primaries with a lilacine tint and speckled with black; an irregularly sinuated black line across the basal area; a broad shining bronze-brown Y-shaped band across the wing beyond the middle, its external branch and main stem traversed by a sinuated central black line; a dentate-sinuate submarginal dusky line with a white external border; a marginal series of white-edged conical black spots; three or four white costal dots towards apex; a white *v*-shaped marking at the inferior extremity of the cell: secondaries bronzy brownish, slightly darker at outer border; fringe whitish, with a central dusky line; body corresponding in colour with the wings. Under surface sericeous, the markings for the most part obsolete; secondaries with well-marked discocellular spot and angulated discal line. Expanse of wings 1 inch 4 lines.

Yokohama (*Jonas*).

Gerbatha angusta. (Plate XLVII. fig. 2.)

Allied to the preceding species, but the primaries darker and narrower; forked bronzy band wanting; the black lines, although similar in direction, differ in sinuation; the discoidal markings generally outlined clearly in white; a white spot below the orbicular spot; otherwise very similar. Expanse of wings 1 inch 5 lines.

Yokohama (*Jonas*).

Evidently much commoner than *G. ypsilon*.

CATOCALIDÆ.

CATOCALA, *Ochs.*

Catocala bella. (Plate XLVI. fig. 10.)

Catocala bella, *Butler*, *Cist. Ent.* ii. p. 242. n. 4 (1877).

Allied to *C. neogama;* primaries slightly narrower, of a more slaty-grey tint, with the outer border dusky and tinted with reddish; secondaries with a broader black central band, a broader black outer border, and with the apex and fringe white instead of ochreous; outer border whitish; secondaries below with the anterior half of the bands, the apex, and fringe white instead of ochreous; body below white. Expanse of wings 2 inches 6 lines.

Yokohama (*Jonas*).

Catocala prægnax. (Plate XLVI. fig. 11.)

Catocala prægnax, *Walker*, *Cat. Lep. Het.* xiii. p. 1213 (1857).

Allied to *C. esther* (Ill. Lep. Het. pl. xxxiii. fig. 9), but smaller and paler; primaries with the markings less defined, the whitish borders of the central lines browner; the outer line without the deep indentation near the inner margin; the annular reniform spot at the base of the first median interspace much larger: secondaries with the hairy brown streak parallel to the abdominal margin abbreviated, the fringe of the abdominal margin yellower, the central belt not reaching the abdominal margin; the external border narrower; body rather paler: under surface with the postmedian transverse brown belt broader. Expanse of wings 2 inches 3 lines.

North China (*Fortune*).

Catocala zalmunna. (Plate XLVII. fig. 3.)

Catocala zalmunna, *Butler*, *Cist. Ent.* ii. p. 241. n. 1 (1877).

Closely alled to *C. electa,* but much larger, the primaries of a more silver-grey tint; the reniform spot large and yellowish, the black markings finer; secondaries above more distinctly shot with lilacine, the angular belt with its inferior half narrower; outer border more narrowly white: primaries below with the white discal band narrower and more angular, the white border confined to the apex and fringe; secondaries with the black band more constricted in the centre. Expanse of wings 3 inches 5 lines.

Yokohama (*Jonas*); Hakodaté (*Whitely*).

EREBIDÆ.

SYPNA, *Guén.*

Sypna achatina. (Plate XLVII. fig. 7.)

Sypna achatina, *Butler, Cist. Ent.* ii. p. 245. n. 2 (1877).

♂ ♀. Allied to *S. picta,* but with the pale areas of the primaries and the whole of the secondaries paler, the dark lines well marked: primaries crossed in the centre by an irregular H-like character, formed of two white-edged, blue-speckled bands, united by a slender blue line just below the middle; the anterior band interrupted by the reniform spot, which is yellowish; a white dot in the cell: secondaries with two subcentral lines, the outer one angulated and distinct; outer border separated into alternately dusky and pale streaks; otherwise much like *S. picta.* Expanse of wings, ♂ 2 inches, ♀ 2 inches 5–7 lines.

Hakodaté (*Whitely*); Yokohama (*Jonas*).

Sypna fuliginosa. (Plate XLVII. fig. 8.)

Sypna fuliginosa, *Butler, Cist. Ent.* ii. p. 245. n. 4 (1877).

Fuliginous brown, traversed by darker and paler lines; primaries (especially in the male) shot with violet; a broad, partly black-edged, tolerably regular brown belt, slightly paler than the ground-colour and crossing the wing just beyond the cell; a white dot in the cell; reniform spot streaked with testaceous internally, blackish-edged externally; external area slightly paler than the ground-colour, black-edged internally; border as in the preceding species: secondaries (excepting the apical fringe) almost as in *S. picta*; under surface similar. Expanse of wings, ♂ 2 inches, ♀ 2 inches 5 lines.

♂, Yokohama (*Pryer*); ♀, Hakodaté (*Whitely*).

OMMATOPHORIDÆ.

NYCTIPAO, *Hübn.*

Nyctipao lætitia. (Plate XLVII. fig. 9.)

Nyctipao lætitia, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 291 (1878).

Near to *N. crepuscularis,* but altogether duller; the white discal stripe not bordered with lilac; the yellowish outer border of the arched white stripe and the diffused oblique bars on the external area replaced by dull pale brown; all the dark areas fuliginous; the ocellus smaller, its anterior margin more regularly convex; the white lunules on the disk of all the wings more slender and enclosing large blackish spots. Under surface darker and duller, the white spots of the discal series rather larger, and the other spots smaller; the inner arched

streak of secondaries further from the discal series of spots. Expanse of wings 4 inches 5 lines.

Hakodaté (*Whitely*); Yokohama (*Jonas*).

HYPOPYRIDÆ.

HYPOPYRA, *Guén.*

Hypopyra extricans. (Plate XLVII. fig. 12.)

Hypopyra extricans, *Walker, Cat. Lep. Het.* xiv. p. 1328 (1857).

Whity brown with a feeble pink shot; the wings crossed just before the middle by a smoky brown stripe, angulated in the primaries; a dentate-sinuate dusky discal line dotted with black upon the veins and with a whitish external border; a zigzag submarginal greyish belt with a central zigzag stripe of the ground-colour; a series of dusky spots closer to the outer margin: primaries with an oblique dusky line from the apex, and above it (touching the costal margin) an irregular whitish spot: head and collar pale ferruginous; abdomen greyish, with ochraceous anus. Under surface ochreous; wings with the discocellulars, three lunulated lines, and a spot in the cell of primaries smoky brown. Expanse of wings 3 inches 2 lines.

North China (*Fortune*).

OPHIUSIDÆ.

PSIMADA, *Walker.*

Psimada cineracea. (Plate XLVII. fig. 4.)

Ashy grey, clouded with brown: primaries crossed near the base by two very irregular brown lines, followed upon the costa by two short brown dashes almost united into an annulus; a central angulated belt limited by two dentate-sinuate lines of brown and enclosing a pale-edged black reniform discocellular line; a black dot in the cell to represent the orbicular spot; a marginal series of pale triangular spots edged with brown; a large costal subapical, nearly triangular, piceous spot: secondaries crossed at basal two fifths by two convergent brown lines, and beyond the middle by a bisinuated brown belt, its outer edge limited by a black line with whitish external border; marginal spots as in primaries. Under surface pale fuliginous brown; primaries with the costa pale, a dusky central spot. Expanse of wings 1 inch 7 lines.

Yokohama (*Jonas*).

EUCLIDIIDÆ.

PLUSIDIA, g. n.

Nearly allied to *Euclidia*, but differing in its less hairy character and its very long erect palpi, a prominent dorsal pencil projecting from the centre of the second segment. Type *P. abrostoloides*.

Plusidia abrostoloides. (Plate XLVII. fig. 5.)

Primaries above rosy whitish; the base, basal half of inner margin, a broad transverse central belt, and a narrow discal belt pale olive-brown; a large subbasal ferruginous spot, partly black-edged and crossed by a white line; a ferruginous apical patch, brightest externally and divided in the centre by a partly white-edged blackish L-shaped character; central area bounded on both sides by two slender parallel brown lines, the outer ones abruptly angulated near the costa; a black marginal line; fringe dusky externally; discoidal markings outlined in brown: secondaries pale sericeous greyish brown, with indications of two slightly darker divergent streaks: thorax reddish, abdomen sericeous whity brown. Under surface sericeous whity brown; primaries greyish excepting at the borders, with two transverse costal streaks breaking up the costal border; secondaries with three parallel and nearly equidistant greyish stripes. Expanse of wings 1 inch 5 lines.

Hakodaté (*Whitely*).

POAPHILIDÆ.

POAPHILA, *Guén.*

Poaphila mollis. (Plate XLVII. fig. 10.)

Alied to *P. sylvarum.* Ashy grey: primaries with cupreous-brown outer border; two nearly central dark-brown parallel lines, slightly incurved towards the costa, just inside the outer line a pale brownish stripe; costal margin yellowish; a marginal ferruginous line dotted with black; fringe grey, speckled and transversely striated with purplish: secondaries sericeous and brownish, fringe creamy. Under surface cream-coloured; wings with ochreous borders: primaries with the central area broadly grey: secondaries with dusky discocellular dot; costal area speckled with grey. Expanse of wings 1 inch 2 lines.

Yokohama (*Jonas*).

PHYLLOPHILA, *Guén.*

Phyllophila cretacea. (Plate XLVII. fig. 11.)

Primaries above sericeous chalky white, clouded with grey; an angulated interrupted central leaden stripe bordered with white, and an oblique stripe of nearly the same colour near the outer margin: secondaries pale leaden grey; fringe white towards the anal angle: body corresponding in general tint with the opposite wings. Under surface sericeous greyish brown, the primaries darker than the secondaries. Expanse of wings 11 lines.

Yokohama (*Jonas*).

THERMESIIDÆ.

SELENIS, *Guén.*

Selenis mira. (Plate XLVII. fig. 6.)

Dull chocolate-brown : wings with a dentate-sinuate submarginal line ; the outer margin, the veins on outer border, and some longitudinal spots on the fringe continuous with the veins creamy yellowish ; a straight line across the disk, a second line parallel to it but nearer the base upon the primaries, the discocellulars and costal border of these wings creamy yellow : head testaceous, collar yellow ; margins of abdominal segments narrowly whitish. Wings below grey, crossed by a single straight discal whitish line, fringe as above ; primaries brownish up to the discal line ; body grey. Expanse of wings 1 inch.

Hakodaté (*Whitely*).

The transverse pale lines of this species give it an aspect very distinct from that of the other forms of *Selenis.*

URAPTERIDÆ.

URAPTERYX, *Leach.*

Urapteryx veneris. (Plate XLVIII. fig. 1.)

Urapteryx veneris, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 392 (1878).

White : primaries crossed by three brown stripes, which converge towards the inner margin : a discocellular brown litura ; outer border narrowly brown, intersected by an orange line ; the transverse stripes of the female also orange at their inferior extremities : secondaries with a dot at the end of the cell and a litura across the internal area brown ; a fulvous discal belt, brownish at the extremities, subangulated and expanded in the middle ; two black spots above the caudal angle ; fringe orange, tipped with white. Under surface with the stripes dark brown, broken up into spots ; the secondaries with two additional brown spots beyond the cell. Expanse of wings 1 inch 5–6 lines.

Yokohama (*Jonas*).

ENNOMMIDÆ.

THIOPSYCHE, *Butler.*

Thiopsyche pryeri. (Plate XLVIII. fig. 2.)

Thiopsyche pryeri, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 393 (1878).

Shining sulphur-yellow ; outer margin of wings black-brown ; fringe very short, white :

primaries sparsely speckled with ferruginous; base of costa ferruginous, speckled with white, with several black dots on the margin, followed by an irregular abbreviated oblique ferruginous stria; external area slightly reddish, excepting at the outer angle; two irregular white-speckled red-brown spots beyond the centre of the inner margin: secondaries with a discal series of ferruginous dots on the veins; a red-brown costal spot: collar and palpi tinted with ferruginous. Wings below paler, spotted and speckled with ferruginous rather more than above; the primaries with a broad ferruginous abbreviated band across the apical area; body whitish. Expanse of wings 1 inch 4 lines.

Yokohama (*Jonas*).

ENDROPIA, *Guén.*

Endropia mactans. (Plate XLVIII. fig. 3.)

Endropia mactans, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 393 (1878).

Wings above bright burnt-sienna red; the disk almost covered by a nebulous plumbaginous belt, limited internally by the outer line; two parallel oblique lines of blackish, abruptly angulated in the primaries near the costal margin; costal border of primaries spotted with saffron-yellow; a dusky patch above the end of the cell; a black dot at the end of the cell: head blackish, with white crest; thorax whity brown, with the tegulæ tawny; abdomen deep red, anus white. Under surface testaceous, clouded with grey; the markings as above, all the wings with prominent black discocellular spots. Expanse of wings 1 inch 5 lines.

Yokohama (*Jonas*).

DESCOREBA, *Butler.*

Descorĕba simplex. (Plate XLVIII. fig. 4.)

Descoreba simplex, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 394 (1878).

Primaries pale stramineous, speckled with dark-brown scales and crossed from the apex to the inner margin by a dark-brown oblique line; a blackish discocellular dot: secondaries snow-white, slightly tinted with stramineous on the outer border; body stramineous, tegulæ clothed with long whitish hairs. Under surface creamy white, speckled with brown; a discal series of black dots on the veins; primaries with fulvous cósta, markings paler than above; secondaries with stramineous costa; legs varied with brown. Expanse of wings 2 inches 1 line.

Yokohama (*Jonas*).

BIZIA, *Walker*.

Bizia æxaria. (Plate XLVIII. fig. 5.)

Bizia æxaria, *Walker*, *Cat. Lep. Het.* xx. p. 261 (1860).
Endropia mibuaria, *Felder*, *Reise der Nov. Lep.* v. Taf. cxxiii. fig. 31 (1875).

Stramineous: wings above spotted with ochraceous and crossed from the end of the cell of primaries to the abdominal margin of secondaries by a sordid ochraceous stripe: primaries with pale costal border, the margin flecked with black-brown; a large brown spot before the middle and a second beyond the cell; a sinuous series of brown dots upon ochraceous spots crossing the disk; outer border broadly ferruginous, striated with grey and spotted with black: secondaries with a large apical ferruginous spot streaked with grey; fringe spotted with ferruginous at the end of the veins: upper surface of palpi, head, and anterior legs, and both surfaces of the antennæ black-brown. Wings below with the markings better defined than above, red-brown, the basal area speckled with blackish; otherwise as above. Expanse of wings 2 inches 2 lines.

North China (*Fortune*); Yokohama (*Jonas*); Mongolia (*Swinhoe*).

CORYPHA, *Walker*.

Corypha incongruaria. (Plate XLVIII. fig. 6.)

Corypha incongruaria, *Walker*, *Cat. Lep. Het.* xx. p. 270 (1860).

Stramineous, irrorated with ferruginous; a submarginal sinuous subconfluent series of dusky spots: primaries crossed by three nearly equidistant brown lines, the two inner ones partly suffused with bright ochreous scales, the innermost one angulated near the costa; external area, from the outermost line, pale purplish brown: secondaries crossed by two central and slightly convergent subangulated brown lines, between which and the submarginal series of dusky spots the ground-colour is slightly brownish. Under surface clearer, the wings densely speckled with ferruginous and crossed by two ferruginous lines. Expanse of wings 1 inch 10 lines.

North China (*Fortune*).

ŒNOCHROMIIDÆ.

NIPHONISSA, *Butler*.

Niphonissa arida. (Plate XLVIII. fig. 7.)

Niphonissa arida, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 394 (1878).

Primaries above pale sandy brown, speckled with grey; an oblique grey discal line; a black-edged whitish discocellular dot; apical half of costal margin ochreous; fringe very

short, olivaeeous, tipped with white: secondaries sandy yellowish, irrorated with grey; an interrupted grey discal line and a grey diseoeellular annulus: body sandy yellowish. Under surfaee sandy whitish, irrorated with grey; markings nearly as above. Expanse of wings 2 inches 1 line.

Yokohama (*Jonas*).

BOARMIIDÆ.

BOARMIA, *Treit.*

Boarmia conferenda. (Plate XLVIII. fig. 8.)

Boarmia conferenda, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 395 (1878).

Nearly allied to *B. consortaria,* but mueh darker, greyer; the discoeellular spot of secondaries larger; under surface whity brown instead of creamy white, but with the same markings. Expanse of wings 2 inehes.

Yokohama (*Jonas*).

Boarmia lunifera. (Plate XLVIII. fig. 10.)

Boarmia lunifera, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 395 (1878).

Allied to *B. roboraria,* but much darker and larger, the first two blackish lines of the primaries less arched, but rather more irregular; the third line well separated; the two central lines of secondaries nearer together; the outer border of all the wings smoky grey, bounded internally by a series of well-defined blaekish-bordered lunate white spots. Wings below grey, with blackish discal belt and discocellular spots; the primaries with pale eosta on whieh are two blaek spots, at the commeneement of two series of grey spots whieh cross the wings; apex of primaries white; body below grey. Expanse of wings 2 inehes 7 lines.

Yokohama (*Jonas*).

Boarmia displicens. (Plate XLVIII. fig. 11.)

Boarmia displicens, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 395 (1878).

Near to *B. rhomboidaria,* but altogether darker, the pale spots replaced by white; the three black lines of primaries plaeed in the male at about equal distances, the middle one not being confused with the outermost one; the two eentral lines of secondaries mueh wider apart. Expanse of wings 1 inch 8 lines.

Yokohama (*Jonas*).

Boarmia leucophæa. (Plate XLVIII. fig. 12.)

Boarmia leucophæa, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 395 (1878).

Also allied to *B. rhomboidaria,* but considerably darker; the primaries with a white spot just beyond the second black line and near the apex; the black lines strongly defined; the basal area and one or two ill-defined discal streaks whitish; the central lines of secondaries much nearer together and more strongly defined. Under surface quite different, pale grey, with discocellular spots and discal belts of slightly darker grey. Expanse of wings 1 inch 11 lines.

Yokohama (*Jonas*).

Boarmia agitata. (Plate XLVIII. fig. 9.)

Boarmia agitata, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 396 (1878).

Allied to *B. repandaria,* but half as large again, the wings (particularly the primaries) far more silky; the lines grey, blurred, but the multitudinous little grey striations more distinct: primaries with a blackish abbreviated bar across the discocellulars, followed by a very irregular whitish band from costal to outer margin; a second narrower blackish bar beyond the cell, being the commencement of the outer or discal line; apex whitish; several subapical white spots; lines of secondaries nearer together, the inner one not being central. Wings below pale smoky brown, with discal lines and whitish markings as above. Expanse of wings 2 inches 4 lines.

Yokohama (*Jonas*).

Boarmia angulifera. (Plate XLIX. fig. 1.)

Boarmia angulifera, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 396 (1878).

Allied to *B. repandaria,* but little more than half the size, considerably darker, of a more sooty tint, the markings of the primaries more sharply defined, fringe much longer: primaries below much darker, with a pale patch beyond the cell and a pale apical spot; discocellular spots strongly marked; black marginal spots better marked; fringe spotted with grey. Expanse of wings 1 inch 4 lines.

Yokohama (*Jonas*).

Boarmia grisea. (Plate XLIX. fig. 2.)

Boarmia grisea, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 396 (1878).

Allied to *B. momaria,* black lines similar to those of *B. repandaria;* wings above ashy grey, with the basal and discal areas clouded with red-brown; margin dotted with black; primaries with a black-edged 8-shaped brown spot at the end of the cell. Under surface

whitish, with a grey discal belt; the lines grey, ill-defined; primaries with white apical spot. Expanse of wings 1 inch 8 lines.

Yokohama (*Jonas*).

Boarmia senex. (Plate XLIX. fig. 3.)

Boarmia senex, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 396 (1878).

Allied to *B. consortaria,* but whiter and with broader primaries; the lines black and similar to those of *B. trispinaria,* excepting that the outer line is rather nearer to the external margin and more strongly dentated. Expanse of wings 2 inches.

Yokohama (*Jonas*); Hakodaté (*Whitely.*)

Boarmia insolita. (Plate XLIX. fig. 5.)

Boarmia insolita, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 397 (1878).

Wings above silvery grey; a subbasal sandy yellowish belt, on and just beyond which are two interrupted transverse black lines; a black costal oblique dash above the end of the cell, and a small yellow spot at base of first median branch; an interrupted sinuated black line beyond the cell, followed by a sandy yellowish discal belt; outer border broadly dusky, intersected by a submarginal undulated whitish line; two quadrate dusky patches placed angle to angle from above the second median branch to the outer margin; a series of black marginal spots: secondaries with discal lines, belts, and marginal spots as in primaries. Under surface silvery white, with dusky discocellular spots; primaries with the discoidal and apical areas faintly tinted with grey; an ill-defined grey discal line. Expanse of wings 1 inch 7 lines.

Hakodaté (*Whitely*).

Boarmia repulsaria. (Plate XLIX. fig. 7.)

Boarmia repulsaria, *Walker, Cat. Lep. Het.* xxi. p. 374 (1860).

Earthy brown, with dusky annular discocellular markings and a series of dusky spots parallel to the outer margin and bounded externally by pale lunules; a broad irregular central greyish belt, bounded by two blackish lines, which cross the wings obliquely and diverge towards the costa of primaries; the inner line of primaries inarched, the outer one of secondaries subangulated; a dusky line on each side of the band parallel to and a short distance from the blackish lines. Wings below sordid white, with large blackish discocellular spots; a broad discal belt and a broad patch connecting it with the outer margin just below apex greyish brown; costal margins brownish. Expanse of wings 1 inch 8 lines.

Hong-Kong (*Chapman*).

The "slightly hyaline" character of the wings mentioned by Mr. Walker is due to the fact that the wings are somewhat rubbed towards the base.

TEPHROSIA, *Boisd.*

Tephrosia charon. (Plate XLIX. fig. 4.)

Tephrosia charon, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 397 (1878).

♂. Silvery grey; the wings crossed by three black lines, the two outer ones of the primaries converging towards the inner margin, and all of them bent inwards above the middle; outer border slightly darker than the remainder of the wings, intersected by a wavy dusky-bordered white line; thorax transversely banded with black: under surface grey; the wings with a very slightly darker discal belt. Expanse of wings 1 inch 11 lines.

♂, Hakodaté (*Whitely*); ♂ ♀, Yokohama (*Jonas*).

Tephrosia ignobilis. (Plate XLIX. fig. 6.)

Tephrosia ignobilis, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 397 (1878).

Nearly allied to *T. transfixaria* from East Florida, but the lines across the wings less oblique, the first one also not double: under surface sandy brown instead of whitish. Expanse of wings 1 inch 4 lines.

Yokohama (*Jonas*).

BYLAZORA, *Walker.*

Bylazora virescens. (Plate XLIX. fig. 8.)

Bylazora virescens, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 398 (1878).

Primaries above pale dull sericeous sap-green, irrorated with black scales, most densely towards the base; costal margin black-dotted; an oblique abbreviated line across the cell, the discocellulars and an oblique slightly concave subapical line blackish; three or four subapical hastate blackish spots in a transverse series beyond the line; a zigzag submarginal blackish line, black-dotted externally, and connected with a series of black marginal spots by blackish longitudinal internervular lines: secondaries pale greyish brown; discocellulars and an irregular discal line dusky; disk beyond the line striated with dusky scales; a marginal series of black dots; body corresponding in colour with the wings. Under surface sericeous white, a marginal series of black dots: primaries with sordid costal margin; a quadrate discocellular blackish spot; a blackish angular discal stripe: secondaries with elongated blackish discocellular spot; an ill-defined discal stripe. Expanse of wings 1 inch 9 lines.

Hakodaté (*Whitely*).

HYPOCHROMA, *Guén.*

Hypochroma pryeri. (Plate XLIX. fig. 9.)

Hypochroma pryeri, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 398 (1878).

Allied to *H. dispensata*, but ashy grey; the two lines across the wings similar; external area crossed by a zigzag white line; discocellular dots black; a marginal series of black dots:

wings below white; a broad discal blackish belt, with straight internal edge, produced externally in one or two places so as to touch the margin; discocellular spots black; primaries with greyish basal area. Expanse of wings 1 inch 8 lines.

Yokohama (*Jonas*).

Hypochroma superans. (Plate XLIX. fig. 12.)

Hypochroma superans, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 398 (1878).

Testaceous, the wings, excepting at the base, greenish sericeous crossed by multitudinous short grey lines; black discocellular lines; an interrupted irregular white lunulated discal stripe, indistinct in secondaries; a submarginal series of white dots; a marginal series of black spots; fringe rather long, ashy grey: primaries with black-spotted costa; apex of palpi and frons black. Under surface of the wings white, with the base yellow; large black discocellular patches; a blackish spot in each discoidal cell, and below it a well-marked grey longitudinal dash; a broad blackish discal belt crossed by an interrupted white line; a series of black marginal spots: primaries with black-spotted costa; external area streaked with blackish: body ochraceous, legs above blackish. Expanse of wings 2 inches 6 lines.

Yokohama (*Jonas*).

ELPHOS, *Guén.*

Elphos latiferaria. (Plate XLIX. fig. 11.)

Pachyodes? latiferaria, *Walker, Cat. Lep. Het.* xxi. p. 445 (1860).

Whity brown, clouded and streaked with burnt sienna, densely and transversely striated with dark brown: primaries crossed beyond the cell by a broad angulated oblique white belt (from costa to outer margin), striated with dark brown and bordered with blackish; wing crossed by four brown stripes, the first basal, the second crossing the cell, interrupted, the third at the end of the cell, the fourth blackish, abbreviated, crossing the inferior portion of the disk; a blackish transverse subapical stripe: secondaries with pale external border, bounded internally by a brown stripe, a second interrupted stripe across the middle of the wing: under surface greyer, the markings less strongly defined. Expanse of wings 2 inches 1 line.

North China (*Fortune*).

The measurement as given by Mr. Walker must be a misprint.

GEOMETRIDÆ.

JODIS, *Hübn.*

Jodis claripennis. (Plate XLIX. fig. 10.)

Jodis claripennis, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 399 (1878).

Aspect of *J. putataria,* but of twice the size; chalky white, with a faint greenish tint

towards the base; a single snow-white discal line bordered internally by a pale yellowish line, oblique in primaries and subangulated in secondaries; costa of primaries and antennæ pale ochraceous; frons, palpi, and margin of eyes ferruginous; under surface of tibiæ and tarsi ochraceous; wings below without discal line. Expanse of wings 1 inch 6 lines.

Yokohama (*Jonas*).

THALASSODES, *Guénée.*

Thalassodes marina. (Plate L. fig. 1.)

Thalassodes marina, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 399 (1878).

Pale bluish green; wings shining, with irregular angulated discal line; fringe white; primaries with ochreous costal margin spotted with black; crest of head and base of antennæ white; abdomen whitish; under surface paler, without markings: body below white. Expanse of wings 1 inch 1 line.

Yokohama (*Jonas*).

THALERA, *Hübn.*

Thalera crenulata. (Plate L. fig. 2.)

Thalera crenulata, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 399 (1878).

Pale green; margin of the wings ferruginous; fringe white, spotted with ferruginous at the terminations of the nervures; primaries with creamy costal margin; two transverse, irregular, parallel, shining white lines; secondaries with one irregular white discal line: antennæ white; frons, palpi, and part of the anterior legs ferruginous, remainder of legs white; wings below paler, whithout white lines. Expanse of wings 11 lines.

Yokohama (*Jonas*).

COMIBÆNA, *Hübn.*

Comibæna difficta. (Plate L. fig. 3.)

Comibæna difficta, *Walker*, *Cat. Lep. Het.* xxii. p. 576. n. 16 (1861).

Emerald-green; wings with the external area broadly whitish, with green or pale brownish markings: primaries crossed before the middle by two convergent whitish streaks; costal margin whitish, brown-speckled; external area with very irregularly undulated white-bordered inner margin, interrupted near the costa by the green ground-colour, a band of which runs across it to the first median branch; one or two green marginal spots; a pale rufous-brown bordered white spot near external angle; a marginal interrupted blackish line; fringe spotted with dark olivaceous at the terminations of the veins: secondaries with traces of an irregular central sap-green line; external area limited by a very irregularly sinuated white-bordered golden-brown line; a central belt of the same colour parallel to the outer margin, and traversed by a regularly sinuated white line; an interrupted black marginal line; fringe as in primaries:

front and back of head white, vertex buff; antennæ white, with testaceous pectinations; thorax and abdomen sordid whitish. Wings below white, fringe spotted as above; primaries with greenish-clouded costal area and slightly yellowish costal margin; a blackish discocellular dot; secondaries with three or four brown discal dots. Expanse of wings 1 inch 5 lines.

Shanghai.

Allied to *C. bajularia* of Europe.

TANAORHINUS, g. n.

Allied to *Geometra,* but the palpi extremely long, the primaries falcate with straight outer margin, the secondaries rounded and entire. Type *T. confuciaria.*

Tanaorhinus confuciaria. (Plate L. fig. 4.)

Geometra confuciaria, *Walker, Cat. Lep. Het.* xxii. p. 522. n. 30 (1861).

Emerald-green; wings with blackish discocellular dots; primaries crossed near the base by a dentate-sinuate creamy-white line; a broad dentate-sinuate white belt traversed by an undulated green line just beyond the middle; a very irregular dentated submarginal line: secondaries crossed by a central white belt traversed by an undulated green line; a very irregular dentated line across the disk: head yellow at the sides, yellowish at the back; antennæ white at the base and below, with testaceous pectinations; palpi black above, white below (excepting the terminal joint); abdomen cream-coloured. Wings below clearer green, with larger black discocellular spots; a straight purplish discal stripe, and two or three spots of the same colour beyond it on the secondaries; body below white; tibiæ and tarsi above green, the tibiæ banded with black. Expanse of wings 3 inches.

North China (*Fortune*); Yokohama (*Jonas*).

EPHYRIDÆ.

ANISODES, *Guénée.*

Anisodes hadassa. (Plate L. fig. 5.)

Anisodes hadassa, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 400 (1878).

Ochraceous, wings irrorated with grey, crossed by three more or less defined crenulate grey lines bordered with dull lilacine (in some examples very indistinct); well-marked black discocellular spots; a marginal series of more or less defined blackish dots: primaries with the costa more or less plumbaginous and transversely striated with grey: collar grey or plumbaginous. Under surface paler and clearer; primaries always with one well-marked discal

grey stripe (some examples with two in all the wings); irrorations and discocellular spots as above. Expanse of wings, ♂ 1 inch 2 lines, ♀ 1 inch 4–5 lines.

Yokohama (*Jonas*).

ACIDALIIDÆ.

ASTHENA, *Hübn.*

Asthena nupta. (Plate L. fig. 6.)

Asthena nupta, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 401 (1878).

White, minutely black-speckled; primaries crossed by five, and secondaries by four parallel irregular yellowish belts, the outermost belt marginal and ill-defined: under surface with the belts reduced to grey lines, very indistinct on the secondaries, the one across the cell of primaries obsolete; discocellular dots black; primaries with yellowish costal margin. Expanse of wings, ♂ 1 inch 1 line, ♀ 1 inch 4 lines.

Yokohama (*Jonas*); Hakodaté (*Whitely*).

Asthena confusa. (Plate L. fig. 7.)

Asthena confusa, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 400 (1878).

Shining white, with large black discocellular spots; primaries crossed by six ochreous irregular belts at unequal distances, the three outermost crowded together; four marginal black dots towards apex; fringe slightly ochreous: secondaries crossed by four ochreous belts, the first crossing the cell, the others discal. Belts below brown, obsolete towards the base; black spots as above; primaries with brownish discoidal area. Expanse of wings 1 inch.

Yokohama (*Jonas*).

Asthena corculina. (Plate L. fig. 8.)

Asthena corculina, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 400 (1878).

Snowy white, sericeous; wings crossed by parallel irregular ochreous belts at equal distances, seven on the primaries (the last abbreviated), and three across the disk of secondaries; discocellular spots and marginal dots black: belts below ill-defined, grey; spots black but less defined, the marginal dots partly or wholly absent. Expanse of wings 9 lines.

Yokohama (*Jonas*).

Asthena superior. (Plate L. fig. 9.)

Asthena superior, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 400 (1878).

Nearly allied to the preceding, but larger, the wings sparsely and minutely black-speckled; secondaries with an additional ochreous belt across the discoidal cell: wings below

snow-white, with a single grey discal line; discoidal area of primaries slightly greyish. Expanse of wings 11 lines.

Yokohama (*Jonas*).

ACIDALIA, *Treits.*

Acidalia jakima. (Plate L. fig. 10.)

Acidalia jakima, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 401 (1878).

Upper surface whity brown, with rosy lilacine costal and outer borders: primaries crossed by three slightly wavy oblique rosy lines, the outermost of which bounds the lower half of the outer border; a black discocellular dot; fringe pale tawny: secondaries crossed by two wavy lines, the outer one bounding the external border; discocellular dot and fringe as in primaries; body whity brown; back of head and collar lilacine; anal segment slightly lilacine, with testaceous terminal tuft: under surface sericeous, with two wavy discal dark grey lines; a slender blackish marginal line; primaries greyish. Expanse of wings 11 lines.

Yokohama (*Jonas*).

Acidalia hanna. (Plate L. fig. 11.)

Acidalia hanna, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 401 (1878).

Pale brown, wings crossed by a central oblique dusky belt, on which the discocellular spot of secondaries is placed; three irregular brown discal lines converging towards the costa of primaries; these wings with one or two oblique basal lines; marginal and discocellular dots black, collar brown: under surface whiter, the belt and lines ill-defined; a discal series of black dots in addition to those of the upper surface. Expanse of wings 10 lines.

Yokohama (*Jonas*).

Acidalia absconditaria. (Plate L. fig. 12.)

Acidalia absconditaria, *Walker*, *Cat. Lep. Het.* vol. xxiii. p. 757 (1861).

Whity brown; wings indistinctly irrorated with grey; discocellular dots and a marginal series black; two irregular parallel pale brownish discal lines; outer border pale brownish, traversed by an undulated whity-brown line; head and upper surface of palpi black, antennæ testaceous: under surface white, the primaries tinted with whity brown, particularly at the costal margin. Expanse of wings 11 lines.

China (*T. Laye*).

TIMANDRA, *Dup.*

Timandra extremaria. (Plate LI. fig. 1.)

Timandra extremaria, *Walker*, *Cat. Lep. Het.* xxiii. p. 801 (1861).

Whity brown, irrorated with grey; wings crossed from apex of primaries to abdominal margin of secondaries by an oblique ferruginous streak; a discal series of black dots, diverging

from the streak and sinuous on the primaries, arched on secondaries, also running from apex of primaries to abdominal margin of secondaries: under surface whiter, with better-defined grey irroration; the ferruginous streak represented by an indistinct grey line upon the secondaries; black dots as above; primaries with a black discocellular dot. Expanse of wings 16 lines.

North China (*Fortune*).

Timandra comptaria. (Plate LI. fig. 2.)

Timandra comptaria, *Walker, Cat. Lep. Het.* xxvi. p. 1615 (1862).

Whity brown, irrorated with dark grey; wings crossed from apex of primaries to abdominal margin of secondaries by an oblique dark ferruginous line; a grey discal line diverging from the ferruginous one and sinuous on the primaries, angulated on the secondaries, also running from apex of primaries to abdominal margin of secondaries; a slender brown marginal line: under surface with the irroration almost black, the oblique line dark grey, the discal and marginal lines black. Expanse of wings 1 inch 2 lines.

China (*T. Laye*); Yokohama (*Jonas*).

HYRIA, *Stephens.*

Hyria sinicata. (Plate LI. fig. 3.)

Hyria sinicata, *Walker, Cat. Lep. Het.* xxii. p. 668 (1861).

Golden yellow, with rosy lilacine borders (excepting at apex of primaries); the wings crossed by three nearly equidistant dentate-sinuate rosy lilacine lines: primaries with a blackish discocellular dot; front of head brown, vertex snow-white; prothorax and sides of abdomen rosy. Under surface pinkish grey, with dusky indications of the lines of the upper surface; fringe yellow as above; body whitish. Expanse of wings 6½ lines.

China (*T. Laye*).

MICRÆSCHUS, *Butler.*

Michræschus aureus. (Plate LI. fig. 4.)

Micræschus aureus, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 402 (1878).

Primaries golden straw-yellow, crossed by two slender blackish lines, the inner one concave, the outer one angulated, between them a black discocellular dot; margin black; fringe white, spotted with black at apex and below the middle: secondaries white, with brownish external area; marginal line black, fringe sordid white: body straw-colour. Under surface white, primaries clouded with greyish brown; discocellulars and an angulated discal stripe black; costal margin black-spotted towards apex; fringe as above: secondaries with black discocellular dot and blackish discal spot. Expanse of wings 8 liues.

Yokohama (*Jonas*).

MICRONIIDÆ.

EROSIA, *Guénée.*

Erosia rapha. (Plate LI. fig. 5.)

Erosia rapha, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 403 (1878).

Snow-white; wings crossed near the base by a semicircular series of dark brown dots: primaries with a very irregular red-brown discal band, margined and intersected by blackish lines and bounded externally by large subconfluent black spots; two subapical black dots connected with the apex by a black line; a sigmoidal pale-brown marking near the outer margin; base of costa blackish: secondaries with the external area excepting at apex broadly red-brown, interrupted by one or two small white spots, and internally by an angulated white-edged brown discal line; margin from the superior caudal process downwards dark brown; a black dot below the inferior process: body spotted with blackish. Under surface white; basal area sordid; external area, especially of primaries, varied with smoky brown. Expanse of wings 11 lines.

Hakodaté (*Whitely*).

Erosia azela. (Plate LI. fig. 6.)

Erosia azela, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 403 (1878).

Primaries above with the basal two thirds, excepting a creamy patch at centre of inner margin, chocolate-brown, crossed by two parallel tawny transverse lines; external area silvery white, brown-speckled internally, and interrupted by a marginal series of triangular brown spots: secondaries with the basal half cream-coloured, bounded by a brown discal belt; external area silvery white; marginal spots as in primaries, but smaller; fringe spotted with brown: head and thorax blackish; shoulders plumbaginous; abdomen cream-coloured. Under surface altogether paler, but very similar in character to the upper surface. Expanse of wings 11 lines.

Yokohama (*Jonas*).

Erosia moza. (Plate LI. fig. 7.)

Erosia moza, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 402 (1878).

Shining greyish brown, reticulated with slaty grey; fringe dark brown: primaries crossed near the base by an arched dark brown line; an oblique abbreviated dark brown line from the costa beyond the middle; a dark brown quadrate spot bounded externally by a black Γ-shaped marking on the inner margin, and a reddish-brown streak spotted with black near the outer margin: secondaries crossed near the base by a black line; a black angulated and sinuated discal line, edged externally with white, and partly bounded internally by a tawny

belt; a sordid ochraceous sagittate marking through the cell; a streak of the same colour from the inferior caudal process to just beyond the end of the cell; a black costal litura near apex; two white-edged black dots above the inferior caudal process; marginal line silvery white, edged internally with brown. Under surface whity brown, striated with blackish; primaries suffused with grey. Expanse of wings 1 inch.

Yokohama (*Jonas*).

Some examples are smaller and paler than the type.

ARGYRIS, *Guén.*

Argyris indicataria. (Plate LI. fig. 8.)

Argyris indicataria, *Walker, Cat. Lep. Het.* xxiii. p. 809 (1861).

White; primaries slightly sordid, with small pale-edged black reniform spot, partly enclosed in an oblique greyish olivaceous central belt, the anterior part of which is attenuated and elbowed; two dark grey costal spots placed on each side of the central belt; a series of more or less lunated grey spots across the externo-discal area, and inside these an interrupted grey line; an interrupted subconfluent series of submarginal grey spots; a marginal series of black dots; fringe spotted with grey: secondaries crossed by two subconfluent angulated grey stripes, the outer one interrupted by a black discocellular dot; a discal series of oval grey spots, and inside these a subconfluent dentate-sinuate grey line; submarginal and marginal spots as in the primaries: front of head and abdomen greyish. Wings below white, with a dusky central belt and black discocellular lituræ; primaries with a dusky costal dot and a decreasing discal series of grey spots. Expanse of wings 1 inch 4–6 lines.

North China (*Fortune*); Hakodaté (*Whitely*).

CABERIDÆ.

CABERA, *Treits.*

Cabera eliela. (Plate LI. fig. 9.)

Cabera eliela, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 403 (1878).

Whity brown: primaries crossed by nine irregular white stripes, the fifth and sixth of which are convergent in the centre and form the central band, the ninth submarginal and zigzag: secondaries crossed by five or six stripes, somewhat confused at the base, the outermost one being submarginal and zigzag; a scarcely perceptible slender blackish marginal line

bordered with white; fringe whitish. Under surface greyish; the lines, excepting two across the disk, confused and indistinct. Expanse of wings 1 inch 6 lines.

Yokohama (*Jonas*).

CORYCIA, *Dup.*

Corycia virgo. (Plate LI. fig. 10.)

Corycia virgo, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 404 (1878).

Silvery white; wings with blackish dots at the terminations of the veins; a brown dot at the inferior angle of each discoidal cell; antennæ bright ochreous. Under surface pearly; legs slightly yellowish. Expanse of wings 1 inch 5 lines.

Yokohama (*Jonas*).

Corycia sacra. (Plate LI. fig. 11.)

Corycia sacra, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 404 (1878).

Snow-white, each wing with two well-defined black discocellular spots: primaries crossed by two pale ochraceous stripes, the inner one angulated, the outer one zigzag; secondaries crossed by one slightly undulated discal stripe; wings below without stripes: body creamy; antennæ with ochracous pectinations. Expanse of wings, ♂ 1 inch 2 lines, ♀ 1 inch 4 lines.

Yokohama (*Jonas*).

THYSANOCHILUS, *Butler.*

Thysanochilus purus. (Plate LI. fig. 12.)

Thysanochilus purus, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 404 (1878).

Shining white; wings speckled with dark brown, with black discocellular dots: primaries crossed by three ochreous stripes, the innermost and outermost being regularly zigzag, the central stripe less strongly zigzag; fringe of internal border ochreous: secondaries crossed by two zigzag ochreous stripes: antennæ with grey pectinations. Wings below with the brown speckling more distinct, only the discal stripe discernible. Expanse of wings 1 inch 4 lines.

Yokohama (*Jonas*).

MACARIIDÆ.

MACARIA, *Curtis.*

Macaria hebesata. (Plate LII. fig. 1.)

Macaria hebesata, *Walker*, *Cat. Lep. Het.* xxiii. p. 931 (1861).

Sordid white, speckled with greyish brown; wings crossed by three nearly equidistant

slightly undulated brown lines, the one nearest the base least distinct, the outermost line angulated towards the costa of primaries; black discocellular dots; a dentate-sinuate discal grey stripe, interrupted in the centre, on each wing, by a black spot; a black marginal line; costal margin of primaries yellowish, speckled with brown. Wings below clouded with yellow, the markings reddish brown. Expanse of wings 1 inch.

Shanghai (*Fortune*).

Macaria zachera. (Plate LII. fig. 2.)

Macaria zachera, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 405 (1878).

Sordid white, becoming pure white at outer border, speckled with black; two central parallel dark brown lines on a yellowish ground, the outer one abruptly angulated and forked towards the costa of primaries, the fork filled in with ochraceous; a slender undulated marginal blackish line; fringe cream-coloured; discocellular spots black: primaries crossed by an angulated dark brown line near the base: body greyish. Wings below brighter than above, but very similar in marking. Expanse of wings 1 inch 5 lines.

Yokohama (*Jonas*).

Macaria maligna. (Plate LII. fig. 3.)

Macaria maligna, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 405 (1878).

Pattern of the preceding species, but the ground-colour above slaty grey: below sandy yellow, with broad tawny external area; markings as above. Expanse of wings 1 inch 3 lines.

Yokohama (*Jonas*).

BITHIA, *Walker*.

Bithia amasa. (Plate LII. fig. 4.)

Bithia amasa, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 405 (1878).

Greyish testaceous, covered with brown striations; the basal area crossed by two ill-defined subangulated darker stripes; a series of blackish discal dots more or less connected by a very indistinct undulated line, barely perceptible on the primaries; a discal pinky-brownish irregular belt, clouded with blackish in the primaries; outer border paler brown; fringe yellowish: primaries with yellow-dotted black costal margin, a pale testaceous apical patch, a series of blackish marginal spots: secondaries with whitish costal area; a blackish spot near the base; discocellulars blackish. Under surface bright testaceous, covered with brown striations; large black discocellular spots; a nearly central ferruginous stripe; a broad discal ferruginous belt; outer border clay-coloured, clouded with ferruginous: primaries with bright testaceous apical spot; anterior coxæ bright ochreous. Expanse of wings 1 inch 8 lines.

Yokohama (*Jonas*).

FIDONIIDÆ.

LOZOGRAMMA, *Steph.*

Lozogramma bela. (Plate LII. fig. 5.)

Lozogramma bela, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 406 (1878).

Primaries pale pinky brown, crossed just beyond the cell by a chocolate-brown line; secondaries whitish, with creamy external area, brown-speckled, crossed by a slender brown discal line; body cream-coloured; antennæ with blackish pectinations: under surface cream-coloured, with yellowish costal borders; all the wings brown-speckled, with red-brown discocellular spots and grey-brown discal line. Expanse of wings 1 inch 5 lines.

Yokohama (*Jonas*).

Lozogramma amelia. (Plate LII. fig. 6.)

Lozogramma amelia, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 406 (1878).

Shining: primaries golden brown, crossed by three pale-edged indistinct undulated grey lines, the outermost one bounded externally by small ovoid plumbaginous spots, which become whitish towards the costa; a large rounded whitish spot enclosing a black dot, and margined with brown, at the end of the cell; external area slightly greyish, crossed by a zigzag dusky submarginal line bounded outwardly by a series of pale spots; marginal line of the ground-colour with two blackish dots on each internervular division; fringe traversed by a grey line: secondaries white, with sordid white fringe. Body testaceous. Under surface whity brown: primaries slightly greyish; upper discocellular and a subangulated undulated discal line grey; an oblique apical grey dash; marginal dots as above: secondaries with blackish discocellular dot and two subangulated discal series, the inner series very indistinctly connected by a pale line; marginal dots as in primaries. Expanse of wings 1 inch 3 lines.

Yokohama (*Jonas*).

SELIDOSEMA, *Hübn.*

Selidosema sordida. (Plate LII. fig. 7.)

Selidosema sordida, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 406 (1878).

Sordid white: primaries with pale fuliginous borders; three greyish-brown costal spots, the third slender and transverse; outer border irregularly bisinuated internally, with a greyish patch just above the middle and a second at external angle; a marginal series of black spots: secondaries with the basal area greyish; a broad central dark grey angulated belt, bounded externally by a series of black spots; a black discocellular spot on the belt;

several greyish-brown costal spots, and an imperfect series along the outer margin; a discal spot beyond the cell and a streak near the anal angle tawny. Body pale brown; pectinations of antennæ blackish. Under surface whity brown; wings mottled with grey, with blackish discocellular dots: primaries with a central costal spot and discal arched streak grey. Expanse of wings 1 inch 3 lines.

Hakodaté (*Whitely*).

ASPILATES, *Treit.*

Aspilates irradiata. (Plate LII. fig. 8.)

Aspilates? irradiata, *Walker, Cat. Lep. Het.* xxiv. p. 1072 (1862).

Brownish grey, wings crossed by a whitish-bordered dark-brown discal line; secondaries rather paler than the primaries and covered with short dark brown striations: under surface cream-coloured, wings speckled all over with pale greyish brown: primaries crossed by a greyish discal belt, secondaries by a greyish line. Expanse of wings 1 inch 2 lines.

Shanghai.

Aspilates discriminaria. (Plate LII. fig. 9.)

Aspilates discriminaria, *Walker, Cat. Lep. Het.* xxiv. p. 1073 (1862).

Stramineous: wings with dusky discocellular dots, a marginal series of dark brown dots; primaries crossed by two regular ferruginous lines, secondaries by one discal line: body much darker than the wings, almost orange; antennæ white with greyish pectinations: wings below sparsely irrorated with grey. Expanse of wings 1 inch.

Shanghai.

ZERENIDÆ.

EUCHERA, *Hübn.*

Euchera agnes. (Plate LII. fig. 10.)

Euchera agnes, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 441 (1878).

Wings white, with broad smoky-grey outer border, crossed by a more or less confluent series of white or whitish lunules parallel to the outer margin: primaries sometimes with very indistinct lunules; base and a subcostal streak ochreous; basal area covered by about ten grey spots in three series; a central broad belt, externally angulated, composed of grey blotches: secondaries with a grey belt almost surrounding the discoidal cell: body ochreous. Wings below white, the markings almost as above, but blackish and narrower; white lunules confluent and well-defined on all the wings, blackish discocellular spots: primaries only

ochreous on the costal border, the basal area only marked with one large blackish blotch: body below white; abdomen belted with grey. Expanse of wings 2 inches 6–8 lines.

Yokohama (*Jonas*); Hakodaté (*Whitely*).

ABRAXAS, *Leach*.

Abraxas conspurcata. (Plate LII. fig. 11.)

Abraxas conspurcata, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol i. p. 440 (1878).

Like heavily spotted varieties of *A. grossulariata,* but differing in that the two discal series of black blotches are complete in the secondaries as well as in the primaries and are nearer to the outer margin; also in the broadly black basal area of the secondaries. Expanse of wings 1 inch 7 lines.

Yokohama (*Jonas*).

Abraxas miranda. (Plate LII. fig. 12.)

Abraxas miranda, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 441 (1878).

Allied to *A. leopardinata* from India, but larger; the primaries with broader and darker basal and internal patches; the costa blotched with grey throughout, the patch over the end of the cell much larger and confluent with the costal patch; the transverse grey belt below it placed nearer to the middle of the wing and, in the female, touching the dark internal patch; two confused parallel discal series of grey blotches; a number of small grey spots forming two imperfect parallel series on the externo-discal area: the secondaries with a complete grey belt across the cell; two somewhat confused discal series of grey blotches terminating in the usual dark internal patch; external area spotted with grey; marginal blotches partially confluent: body similar. Expanse of wings, ♂ 2 inches, ♀ 2 inches 4 lines.

Yokohama (*Jonas*).

Abraxas placida. (Plate LIII. fig. 1.)

Abraxas placida, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 441 (1878).

White, with ochraceous body; wings with ochreous outer border and black-spotted orange fringe; an externo-discal series of black spots, imperfect in secondaries; base ochraceous, spotted with black; primaries with three subbasal blackish spots; an irregular central band formed of blackish blotches; two black costal spots near apex: secondaries with a central irregular band formed of blackish lines; shoulders and palpi blackish. Wings below nearly as above. Expanse of wings 1 inch 5 lines.

Hakodaté (*Whitely*).

Abraxas plurilineata. (Plate LIII. fig. 2.)

Abraxas plurilineata, *Walker, Cat. Lep. Het.* xxiv. p. 1123 (1862).

Primaries white, base yellowish; the basal half crossed by eight oblique dark brown stripes; three transverse brown stripes just beyond the middle, two across the disk, a third abbreviated towards the apex, and one submarginal; a marginal dark brown line: secondaries yellowish, especially towards the anal angle; basal area greyish; four ill-defined abbreviated dark brown central lines arranged in pairs; a dark brown abbreviated belt from the apex to the third median branch and a spot on the second median interspace; two marginal dark brown dots near the anal angle: head white, spotted with black; thorax white, striped with black; abdomen yellow, with lateral black dots. Primaries below nearly as above: secondaries with a blackish subcostal spot near the base, a central dark brown line followed immediately by two others; two discal stripes not reaching the abdominal margin; a small apical spot or dash and a submarginal dot close to it, all dark brown; venter white, with two longitudinal stripes of black; legs cream-coloured, tibiæ blackish at each end. Expanse of wings 1 inch 2 lines.

North China (*Fortune*).

Allied to *A. junctilineata*, but resembling the genus *Pyrcnarmon* among the *Pyrales*.

DEROCA, *Walker*.

Deroca phasma. (Plate LIII. fig. 4.)

Deroca phasma, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 442 (1878).

♂. Hyaline, snow-white: primaries with three grey spots across the basal half of the costa, a fourth above the end of the cell, and a larger spot at the end of the cell; a large grey apical patch crossed by a trifid white patch, and a similar smaller patch at the external angle: antennæ with grey pectinations; abdomen grey, crossed by white segmental lines. Wings below nearly as above, but the grey markings darker and the costal spots on the basal half confluent; body below cream-coloured. Expanse of wings 1 inch 4 lines.

♀. Larger, iridescent, with paler markings. Expanse of wings 1 inch 6 lines.

Yokohama (*Jonas*).

LOMASPILIS, *Hübn.*

Lomaspilis opis. (Plate LIII. fig. 3.)

Lomaspilis opis, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 442 (1878).

Wings creamy white: primaries with the basal fourth, three large blotches across the centre (the two uppermost confluent), the apex, outer margin, and external angle pale purplish brown: secondaries with three blotches across the centre, the apex, a subapical marginal spot,

outer margin, and anal angle pale purplish brown. Body brown, legs testaceous. Expanse of wings 1 inch 1 line.

Yokohama.

Nearly allied to the European *L. marginata,* but differing in the blotches across the centre of the wings.

LIGIIDÆ.

PACHYLIGIA, *Butler.*

Pachyligia dolosa. (Plate LIII. fig. 5.)

Pachyligia dolosa, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 442 (1878).

Primaries smoky brown, varied with bronzy brown; base longitudinally streaked with black; two irregularly sinuated central black lines, and between them an irregular blackish stripe; upper discocellular black; outer border bronzy, with undulated inner edge; a submarginal series of dark brown spots; margin undulated; fringe pale at base: secondaries sordid white, with pinky brown outer border and darker brown fringe; upper discocellular black: head and thorax brown; abdomen testaceous; antennæ testaceous. Primaries below greyish, with testaceous costa; outer border slightly paler; a black discocellular dot: secondaries whity brown, with testaceous costa; fringe and an anal streak dusky; a large black discocellular spot. Expanse of wings 1 inch 11 lines.

Yokohama (*Jonas*).

Pachyligia modesta. (Plate LIII. fig. 6.)

Pachyligia modesta, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 443 (1878).

Primaries silvery whitish, crossed by two slender irregularly dentate and crinkled blackish lines; a third paler line limiting the outer border: secondaries slightly browner in tint than the primaries, crossed in the middle by an irregularly sinuated grey line; margin slenderly blackish; fringe silvery whitish: head and thorax grey; antennæ with brown pectinations; abdomen testaceous. Under surface pale whity brown: wings with the costal borders testaceous; each wing with a dentate-sinuate grey discal line and a blackish marginal line. Expanse of wings 1 inch 9 lines.

Yokohama (*Jonas*).

HYBERNIIDÆ.

HYBERNIA, *Latr.*

Hybernia dira. (Plate LIII. fig. 7.)

Hybernia dira, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 443 (1878).

Primaries smoky brown, streaked here and there with tawny; a central irregular black-

edged and speckled pale greyish belt, concave internally, unequally bisinuated externally; base greyish; outer border pale, bordered internally by an irregularly sinuated white line; a series of black marginal spots; fringe white, grey-speckled at base: secondaries pale greyish, speckled with grey, streaked with blackish on the abdominal area at anal angle; a black marginal line: body grey, black-spotted. Under surface greyish: wings with bronze-tinted borders and blackish discocellular dots; secondaries speckled with grey. Expanse of wings 1 inch 6 lines.

Yokohama (*Jonas*).

LARENTIIDÆ.

LARENTIA, *Dup.*

Larentia hemana. (Plate LIII. fig. 8.)

Larentia hemana, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 444 (1878).

Closely allied to *L. salicata*, but the central band of primaries of nearly twice the width, the wings altogether paler, and the secondaries similar in marking to those of *L. cæsiata.* Expanse of wings 1 inch 2 lines.

Yokohama (*Jonas*).

EUPITHECIA, *Curtis.*

Eupithecia sophia. (Plate LIII. fig. 9.)

Eupithecia sophia, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 444 (1878).

Allied to *E. denticulata* of Europe; sordid white, with pale greyish outer borders and fringes to the wings and black discocellular spots: primaries with the basal half of costa and the basal area blackish, crossed by irregular white lines; remainder of the wing crossed alternately by grey belts and white lines, the widest of which form an indistinct central oblique band; all the lines zigzag: secondaries crossed by one or two indistinct greyish lines. Wings below whiter, shining, the markings of the primaries only visible through the wings, excepting upon the costal border. Expanse of wings 9 lines.

Yokohama (*Jonas*).

Eupithecia invisa. (Plate LIII. fig. 10.)

Eupithecia invisa, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 444 (1878).

Pale silky greyish; external area of wings crossed by five slightly irregular parallel grey lines, most distinct on the primaries, the two inner lines dotted with black upon the nervures; discocellular spots black: primaries with the costa dusky, crossed by dark spots; a very ill-defined oblique belt across the centre of the wing, but scarcely darker than the ground-colour. Under surface whitish; the discal lines indicated by a series of dusky spots, two at costa of primaries blackish; discocellular spots black. Expanse of wings 1 inch.

Hakodaté (*Whitely*).

Eupithecia excisa. (Plate LIII. fig. 11.)

Eupithecia excisa, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 445 (1878).

Nearly allied to *E. succenturiata* of Europe, but differing in its smaller size, greyer primaries, and in the front margin of the central belt of primaries being deeply and angularly notched beyond the discoidal cell. Expanse of wings 11 lines.

Yokohama (*Jonas*).

Eupithecia rufescens. (Plate LIII. fig. 12.)

Eupithecia rufescens, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 445 (1878).

Apparently allied to *E. satyrata* of Europe, but much larger and with considerably longer palpi; an oblique subbasal belt and the external area of the primaries laky brown; a black marginal line enclosed in and interrupted upon the veins by a white border. Expanse of wings 11 lines.

Yokohama (*Jonas*).

Eupithecia proterva. (Plate LIV. fig. 1.)

Eupithecia proterva, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 445 (1878).

Allied to *E. innotata*, larger; the primaries still more produced, pale smoky grey, with the base, a subbasal band, an oblique whitish-edged central belt (angular, excised above the median vein), and the external area blackish; a crinkled whitish submarginal line; discocellulars black: secondaries covered with parallel dusky lines, which become black upon the veins. Wings below grey; the discocellulars, two discal series of dots, and a marginal series black. Expanse of wings 1 inch.

Yokohama (*Jonas*).

Eupithecia caliginea. (Plate LIV. fig. 2.)

Eupithecia caliginea, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 445 (1878).

Near to *E. pygmæata*, but the ground-colour of the wings black instead of sooty grey; the crinkled lines across the primaries formed of white scales. Expanse of wings 10 lines.

Yokohama (*Jonas*).

COLLIX, *Guén.*

Collix vashti. (Plate LIV. fig. 3.)

Collix vashti, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 445 (1878).

Dark fuliginous brown; the wings crossed by from eighteen to twenty parallel undulated blackish or black lines, more or less dotted with white upon the nervures; submarginal line

indistinctly white-edged on the primaries; marginal line well defined and black, the sinuations filled by white dots on the fringe: secondaries with all the lines less distinct than on the primaries. Under surface sericeous, with the blackish lines ill-defined. Expanse of wings 1 inch 2–8 lines.

Hakodaté (*Whitely*).

LOBOPHORA, *Curtis.*

Lobophora julia. (Plate LIV. fig. 4.)

Lobophora julia, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 446 (1878).

Primaries above pale purplish brown, crossed by numerous irregularly crinkled or zigzag blackish lines; two pale green belts across the basal area, and a zigzag discal belt of the same colour, edged internally with white; a slender zigzag submarginal white line; a large black discocellular spot: secondaries pale shining grey, the disk crossed by several parallel slightly darker lines: abdomen banded with testaceous. Wings below pale silvery grey, with black discocellular dots; a blackish macular discal line, and a zigzag pale grey submarginal line. Expanse of wings 1 inch.

Yokohama (*Jonas*).

Lobophora volitans. (Plate LIV. fig. 5.)

Lobophora volitans, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 446 (1878).

Wings white: primaries shining, more or less densely sprinkled with grey scales, and crossed by a basal and two central black-edged sap-green bands; a discal sinuated black-edged white stripe, more or less obscured by grey scales; outer border greenish, with a marginal series of black ⊢-shaped markings terminating the veins; the veins throughout black-banded: secondaries with a discal line and a sinuated submarginal line pale grey; a dark grey marginal line: body grey, varied with brown, and spotted here and there with black; legs black, banded with white. Under surface sordid sericeous whitish; wings crossed by two greyish discal lines; blackish discocellular lituræ and marginal dots. Expanse of wings 1 inch 2 lines.

Yokohama (*Jonas*).

Lobophora terranea. (Plate LIV. fig. 6.)

Lobophora terranea, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 446 (1878).

Similar in form to the preceding, but the wings smaller and rather narrower, grey; the primaries crossed by three basal, two more or less confluent central belts, and one discal sinuated belt; basal and apical areas suffused with red-brown; central belts red-brown with blackish outlines; other belts outlined in blackish; veins banded with blackish; a series of

marginal dots: secondaries with whitish costal area; a submarginal pale grey line. Under surface sericeous grey. Expanse of wings 1 inch 2 lines.

Yokohama (*Jonas*).

LYGRANOA, *Butler.*

Lygranoa fusca. (Plate LIV. fig. 7.)

Lygranoa fusca, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 447 (1878).

Pale brown, wings with slender blackish marginal line, followed by a yellowish line at the base of the fringe: primaries with dusky base; an abbreviated black costal dash across the end of the cell, and a second halfway between the cell and apex; two irregular subparallel brown lines running from the costal dashes across the wing to inner margin; a subapical black costal spot; fringe whitish, intersected by a grey stripe. Wings below sericeous whity brown; discocellular dots and a discal series grey: primaries with bronzy borders; fringe as above, but more decidedly grey-spotted at the ends of the veins. Expanse of wings 11 lines to 1 inch 2 lines.

Yokohama (*Jonas*); Hakodaté (*Whitely*).

MELANTHIA, *Dup.*

Melanthia casta. (Plate LIV. fig. 8.)

Melanthia casta, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 447 (1878).

Nearly allied to *M. albicillata,* but larger; the markings more sharply defined and blackish; the macular subapical portion of the interrupted discal stripe bifid, not trifid, and therefore not united to the large costal patch; discocellular spots black and well defined. Wings below with darker markings, the macular discal stripe well defined in the secondaries as well as the primaries. Expanse of wings 1 inch 6 lines.

Hakodaté (*Whitely*).

MELANIPPE, *Dup.*

Melanippe inquinata. (Plate LIV. fig. 9.)

Melanippe inquinata, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 448 (1878).

Closely allied to *M. procellata* of Europe, but larger; the wings always more or less suffused with grey, sometimes only enough to make them look sordid, but sometimes so dark as almost to conceal the ordinary markings: primaries with the basal dark patch broader, and the dark outer border of twice the width. Expanse of wings 1 inch 7 lines.

Yokohama (*Jonas*); Hakodaté (*Whitely*).

Melanippe bella. (Plate LIV. fig. 10.)

Melanippe bella, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 448 (1878).

Allied to the preceding, but with unusually small secondaries: wings white, suffused, excepting at the borders, with stramineous; the apical and infero-external borders blotched with red-brown and bounded internally by a discal series of blackish rounded spots, interrupted on each wing upon the second median interspace; black discocellular spots: primaries with the costal border spotted with red-brown and grey, most broadly above the end of the cell; a tawny spot near the base of inner margin; two or three very indistinct slender brownish lines across the wing, the outermost one zigzag: secondaries with a grey basal stripe, a central grey elbowed belt, and an arched grey stripe just beyond the middle: body white, head sordid, antennæ black. Wings below with all the markings black or grey; a central belt followed by a grey streak on all the wings; basal area of primaries greyish: body grey, whitish in front; legs varied above with black and white. Expanse of wings 1 inch 4–6 lines.

Yokohama (*Jonas*); Hakodaté (*Whitely*).

Melanippe supergressa. (Plate LIV. fig. 11.)

Melanippe supergressa, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 448 (1878).

Closely allied to *M. rivata* of Europe, the markings blacker, the discal white belt beyond the central band broader; the base of secondaries white, irrorated with grey, but not densely; three central parallel dark grey lines not reaching the costa: wings below with the markings better defined. Expanse of wings 1 inch 1 line.

Hakodaté (*Whitely*); Yokohama (*Jonas*).

The whiter base to the secondaries and the blacker bands are the most evident distinctions between this form and *M. rivata*.

Melanippe hecate. (Plate LIV. fig. 12.)

Melanippe hecate, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 448 (1878).

Black, indistinctly mottled with grey: wings with the fringes spotted with white; a broad irregular white band just beyond the middle, strongly angulated on the primaries; these wings also with a double submarginal series of pale spots; the inner series with one upon the costa, and a second just beyond the angle of the irregular band, white: back of head white, antennæ dotted with white, abdomen with white margins to the segments. Wings below greyer than above, the basal area crossed by parallel transverse whitish streaks; body white. Expanse of wings 1 inch 4 lines.

Yokohama (*Jonas*).

Allied to *M. furcifascia*.

ANTICLEA, *Steph.*

Anticlea consanguinea. (Plate LV. fig. 1.)

Anticlea consanguinea, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 449 (1878).

Nearly allied to *A. berberata* of Europe, but of a more uniformly grey colour: primaries with the bands broader, the subbasal band more regular, the dark band just before the middle of the wing distinctly angulated above the median vein; the discal band less strongly dentated; outer border broadly dusky, completely obliterating the sinuated submarginal lines: secondaries greyish brown, crossed beyond the middle by an angulated and sinuated dusky line. Wings below similar in colouring to those of *A. berberata,* but with a strongly defined continuous discal line. Expanse of wings 1 inch 2 lines.

Hakodaté (*Whitely*).

COREMIA, *Guén.*

Coremia livida. (Plate LV. fig. 2.)

Coremia livida, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 449 (1878).

Allied to *C. ferrugata,* but uniformly greyish brown; the basal bands more decidedly undulated, and only indicated in outline by dark lines; the broad dark belt further from the base, its margins more distinctly undulated, its inner margin also more irregular, its outer margin less decidedly angulated; outer border smoky grey, bounded by a continuous series of white-edged dark lunules, those spots which are blackish in *C. ferrugata* being scarcely deeper in tint than the others; the zigzag discal line replaced by a sinuated line forming an internal boundary to the submarginal lunules; lines across the secondaries less strongly defined: wings below more uniform in tint and sericeous grey, with the sinuated parallel lines arched rather than angulated. Expanse of wings 1 inch 1 line.

Yokohama (*Jonas*).

Coremia frigida. (Plate LV. fig. 3.)

Coremia frigida, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 450 (1878).

White, the primaries spotted with black and smoky brown at the base; two central angulated black lines, the outer one diffused internally above the middle; a black spot at the end of the cell; outer border smoky brown, margined and traversed internally by two black lines parallel to the outer of the two central lines; veins upon the border black, each with a central white dot, the whole together forming a submarginal series; fringe white-spotted: secondaries silver-grey, with the external area regularly white; a marginal series of dark grey spots which run through the fringe; a blackish discocellular spot: body whitish, greyish in front, dotted with black; antennæ black annulated with white. Primaries below with the

basal two thirds silver-grey, erossed near the base by two grey stripes visible through the wing, the inner one marked with two blaekish spots; an oblique blaek faseiole aeross the end of the eell, partly limiting thc grey area; an angulated whitc discal belt, followed by a blaek border; a white subapieal eostal dot, and a series on the fringe: secondaries as above: body below white. Expanse of wings 1 ineh.

Yokohama (*Jonas*).

Somewhat like *Emmelesia ericetata*.

CIDARIA, *Treit.*

Cidaria complicata. (Plate LV. fig. 4.)

Wings above white: primaries erossed near the base by four parallcl zigzag black lines, followed by an irregularly angulated interrupted brown belt; eentral band formed by seven angulated blaek lines, the inner ones <-shaped, the outer ones zigzag, so that in the middle they beeome eomplieated; a broad and very irregular sandy-brown belt; external border sandy whitish: seeondaries speekled with brown upon the median vein and erossed by three eentral angulated brown lines; discal belt and external border as in the primaries: body white, streaked with brown; palpi testaceous. Under surface uniformly sandy whitish, but the markings of the upper surface indistinctly visible on aceount of the transparency of the wings. Expanse of wings 11 lines.

Yokohama (*Jonas*).

Cidaria obscura. (Plate LV. fig. 5.)

Cidaria obscura, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 450 (1878).

Most like very dark varieties of *C. russata,* but altogether deeper in tint and with a different pattern on the underside. Greyish brown, the primaries with a pink tinge, markings extremely like those of *C. russata,* dark brown, limited by pale-bordered black lines; a slightly sinuated black outer margin and grey-tipped fringe: secondaries with dusky external border, on whieh there is an indieation of a paler submarginal sinuated line; a blaek scalloped marginal line; fringc grey, with pale basal line. Wings below grey, with pale testaeeous eostal borders; discocellular dots dusky; three parallel darker grey lines beyond the middle of the wing, followed by a whity-brown broadly sinuated diseal belt; a submarginal dusky belt followed by an ill-defined undulated pale line; outer border grey; fringe whity brown: body whity brown. Expanse of wings 1 inch 5 lines.

Yokohama (*Jonas*).

Cidaria melancholica. (Plate LV. fig. 6.)

Cidaria melancholica, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 450 (1878).

Allied to *C. silaceata,* but considerably larger, the white line nearest to the base of primaries more regular, not succeeded by a yellow line; the line which follows it (indicating the inner edge of the central band) acutely angulated upon the median vein; the lines and veins on the external area, which are yellow in *C. silaceata,* pale testaceous or sordid whitish; a small blue-pupilled ocellus beyond the discoidal cell: secondaries smoky grey throughout, with the usual sinuated white-edged discal lines. Expanse of wings 1 inch 10 lines.

Yokohama (*Jonas*).

Cidaria ærosa. (Plate LV. fig. 7.)

Cidaria ærosa, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 451 (1878).

Closely allied to *C. reticulata,* but nearly twice as large and with all the lines of primaries brassy yellow instead of white; secondaries and body tinted with brassy yellow; under surface pale brassy yellow, with indistinct greyish markings similar to those of *C. reticulata.* Expanse of wings 1 inch 9 lines.

Hakodaté (*Whitely*).

Cidaria cineraria. (Plate LV. fig. 8.)

Cidaria cineraria, *Butler, Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 451 (1878).

Very closely allied to *C. picata,* but the markings blacker; the central band of primaries not notched at the second median branch; all the yellow or yellowish olivaceous markings replaced by ashy grey; the white belt of secondaries wider, the body darker. Expanse of wings 1 inch 4 lines.

Hakodaté (*Whitely*).

Cidaria jameza. (Plate LV. fig. 9.)

Cidaria jameza, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 452 (1878).

Allied to *C. inspurcata*: primaries sepia-brown, crossed near the base by two irregular white lines, undulated and angulated above the median vein; two black-edged very irregular dentate-sinuate white discal lines, only separated by a brown centre line; a dentate-sinuate white submarginal line; centre of external area sprinkled with white scales; a black-spotted white marginal line; fringe spotted with whitish: secondaries grey; costal area, an angulated chain-like postmedian belt, a dentate-sinuate submarginal line, and the margin white; a marginal series of black spots: fringe as in primaries: thorax brown, abdomen grey. Wings below with the basal area uniformly grey, limited externally by the discal line, which is represented by subconfluent black spots; discocellulars black. Expanse of wings 1 inch 3 lines.

Hakodaté (*Whitely*).

Cidaria tetrica. (Plate LV. fig. 10.)

Cidaria tetrica, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 451 (1878).

Nearest to *C. suffumata*, but considerably larger; the primaries mottled all over with olivaceous, with diffused bronzy borders to the veins: the wings dark brown, crossed by three silvery bands, all forked, the first two from the median vein, the third from the upper radial; central band twice as wide as the others; between each two bands and between the external band and the outer margin a slender silvery line; a marginal series of silvery spots with black centres: secondaries white, speckled with grey; two parallel discal grey lines, on the outer one several blackish spots; a marginal series of blackish spots; fringe yellowish: body brown, banded with pale yellow and white. Under surface shining white: primaries mottled with grey; costa speckled with black: secondaries speckled with brown and grey; a brown discocellular spot and a brown angulated discal line; a grey interrupted submarginal line. Expanse of wings 1 inch 8 lines.

Yokohama (*Jonas*).

EUBOLIIDÆ.

EUBOLIA, *Dup.*

Eubolia niphonica. (Plate LV. fig. 11.)

Eubolia niphonica, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. p. 452 (1878).

Primaries with the basal two thirds smoky brown, blackish externally, and limited by an irregular bracket-shaped whitish line; external third paler, white towards the border; two irregular arched whitish-edged black lines near the base; a black spot at the end of the cell; three or four subapical white dots; two black subapical spots: secondaries pale smoky brown, with a central whitish-edged dusky bracket-shaped line; outer margin white, dotted with black: thorax blackish, abdomen brown: under surface paler, the basal lines obsolete, the veins on the disk with reddish borders; black discocellular spots well defined. Expanse of wings 1 inch 6 lines.

Yokohama (*Jonas*).

HYPENIDÆ.

HYPENA, *Schr.*

Hypena minna. (Plate LV. fig. 12.)

Primaries whity brown, speckled with slightly darker brown; discocellulars and a straight slightly oblique line beyond the middle of the same colour; a small blackish spot just before the middle of the cell, a zigzag discal series of black dots terminating on inner margin with a

black spot; external area reddish brown: secondaries sordid white, slightly brownish externally and speckled with smoky brown: body pale brown; palpi, antennæ, and front legs darker. Wings below whitish, reticulated with greyish lines, which are most distinct upon the secondaries; primaries with pale reddish-brown costal border, crossed by a dusky litura beyond the cell and by two black spots near the apex. Expanse of wings 1 inch 3 lines.

Yokohama (*Jonas*).

Hypena tatorhina. (Plate LV. fig. 13.)

Pale greyish brown, more or less distinctly reticulated with darker striations of the same colour: primaries crossed by two slightly sinuated parallel oblique darker lines; a third very ill-defined line limiting the external area: secondaries slightly paler than the primaries. Wings below less distinctly reticulated than above, especially the primaries, which are marked near apex with two or three white dots parallel to the outer margin; discocellulars dusky; an abbreviated dusky transverse streak beyond the cell: secondaries with a dusky discocellular spot; an indistinct postmedian angular dusky line; apical area broadly dusky, but not defined: body greyish. Expanse of wings 1 inch 6 lines.

Yokohama (*Jonas*); Hakodaté (*Whitely*).

Closely allied to *H. proboscidalis.*

Hypena zilla. (Plate LVI. fig. 1.)

Nearly allied to *H. crassalis* of Europe, but rather larger and less brilliant in colour, the broad irregular dark area of primaries scarcely extending beyond the middle of the wing, its outer edge bracket-shaped and clearly bordered with white, its inner or inferior edge more deeply excised towards the base; markings on the disk less strongly defined, the apical streak broken up into small elliptical spots; external border scarcely touched with grey: secondaries paler and greyer. Expanse of wings 1 inch 5 lines.

Hakodaté (*Whitely*).

Hypena squalida. (Plate LVI. fig. 2.)

Greyish brown: primaries reddish brown towards the base, and with a large whitish-bordered black-edged reddish-brown patch, nearly resembling the dark area of the preceding species; an irregular discal series of blackish spots near the outer margin, their outer edges bordered with white; a marginal series of black spots at the terminations of the veins: secondaries with a marginal series of black spots and a whitish fringe. Under surface whity brown, secondaries with very indistinct discal brownish line and discocellular spot. Expanse of wings 1 inch 2 lines.

Yokohama (*Jonas*).

This species also belongs to the *H. crassalis* group, but is most nearly allied to *H. bijugalis* of Nova Scotia.

Hypena belinda. (Plate LVI. fig. 3.)

Primaries fuliginous brown, reticulated with blackish and mottled with silvery grey beyond the middle; a broad regular transverse reddish-brown belt terminating at the middle of the wing, where it is bounded by a silvery-grey line; a white subapical spot and a marginal series of black dots: secondaries paler than the primaries, immaculate: body pale brown, abdomen with whitish segmental lines. Under surface pale whitish brown; primaries rather darker than the secondaries, with white subapical spot; secondaries with a dusky discocellular spot, and traces of two arched lines parallel to the outer margin. Expanse of wings 1 inch to 1 inch 2 lines.

Yokohama (*Jonas*).

Much like *H. iconicalis,* but differing considerably in its much more slender and shorter palpi.

GISIRA, *Walker.*

Gisira signata. (Plate LVI. fig. 4.)

Greyish brown; wings crossed at the middle by a pale-edged darker straight line; an interrupted black marginal line: primaries crossed at the basal fourth by an irregular deeply sinuated dusky streak, darkest upon the costa, and with a pale internal edge; a black dot, close to the latter, within the cell; a whitish-edged black >-shaped marking at the end of the cell, above which the central dusky line becomes wider and dark; a transverse subapical costal blackish fasciole, white-edged externally: secondaries with an ill-defined dusky discal belt parallel to the outer border: head and thorax rather darker than the abdomen. Wings below paler than above, crossed by two subparallel sinuated pale-bordered dusky discal lines; discocellulars blackish: secondaries sordid white, irrorated with greyish brown, the borders of the lines white: body greyish brown. Expanse of wings 1 inch 4 lines.

Yokohama (*Jonas*).

Allied to *G. acclamalis.* The genus *Gisira,* excepting in its long slender palpi, much resembles the Noctuid genus *Toxocampa,* to which it may ultimately prove to be allied; the palpi are, however, much longer than in any genus of *Toxocampidæ* hitherto known.

HORMISA, *Walker.*

Hormisa plusioides. (Plate LVI. fig. 5.)

Primaries silvery grey; a subcuneiform dusky costal patch at the base, followed by an oblique elbowed dusky line; an irregularly pentagonal dusky costal patch over the end of the cell, followed by an angulated and oblique black discal line, which widens below the angle into a black-edged yellowish-brown stripe terminating upon the centre of the inner margin; a subapical dusky costal dash interrupted by four white dots upon the costal margin, and

bounded externally by an oblique silvery-white dash; a broad diffused transverse bronze-brown discal belt, crossed by blackish hastate dashes; fringe with a slender white basal line: secondaries pale greyish brown: thorax silvery grey; abdomen pale brown: under surface pale sericeous brown. Expanse of wings 11 lines.

Yokohama (*Jonas*).

This species much resembles *Britha biguttata* from Australia.

Hormisa cramboides. (Plate LVI. fig. 6.)

Pale buff: primaries crossed from apex to inner margin by an oblique ill-defined whitish stripe, immediately followed by two or three parallel dusky undulated lines, the interval between the first line and the whitish stripe also slightly dusky: secondaries greyish: thorax, palpi, and pectinations of antennæ greyish: primaries below and pectus sordid; secondaries and venter pale buff, almost white. Expanse of wings 1 inch 1 line.

Yokohama (*Jonas*).

HERMINIIDÆ.

HERMINIA, *Latr.*

Herminia sicca. (Plate LVI. fig. 7.)

Allied to *H. tarsipennalis*, but rather paler; the two lines nearest to the base of primaries almost straight instead of irregular; the outermost line sharply defined and with a white external border: secondaries sordid white, with the submarginal angulated dusky line edged externally with pure white. Wings below white, slightly sordid, crossed by two grey discal lines, and with blackish discocellular dots. Expanse of wings 1 inch 4 lines.

Yokohama (*Jonas*).

Herminia fumosa. (Plate LVI. fig. 8.)

Smoky brown, with a scarcely perceptible lilacine shot; outer margin of wings black, followed upon the fringe by a white line, beyond which is a slender line paler than the ground-colour: primaries crossed by three dark-brown lines, the central one more or less angulated, the two others slightly irregular, the outermost one with a whitish external margin; discocellulars blackish: secondaries with a blackish line beyond the cell and with the usual whitish-bordered externo-discal blackish line running to anal angle: inner surfaces of the antennæ and palpi sordid white. Wings below more uniform in colour, primaries crossed by one central dusky line; a subapical costal white spot; margin as above: secondaries nearly as above. Expanse of wings 1 inch 5 lines.

Yokohama (*Jonas*).

Herminia griselda. (Plate LVI. fig. 9.)

Greyish brown : primaries very slightly tinted with lilacine, crossed at the middle by two widely separated dark-brown lines, the first, at basal third, nearly straight, the second sharply angulated at upper radial nervure; a slightly curved ochre-bordered dark brown stripe from the apex to the inner margin close to external angle; a brown >-shaped discocellular marking; a slender black marginal line: secondaries with the usual whitish-bordered brown lines near anal angle; a slender black marginal line. Wings below tinted with sandy yellowish, fringes grey, marginal line black: primaries crossed by a sinuous dusky discal line: secondaries crossed by two parallel slightly irregular dusky discal lines; a black discocellular spot. Expanse of wings 1 inch 4 lines.

Yokohama (*Jonas*).

Herminia innocens. (Plate LVI. fig. 10.)

Primaries above silvery grey; the basal half of costa, a central belt, and the external area olive-brown; three slightly irregular blackish lines, the first two on either side of the central belt, the third from near apex to external angle; a slender and slightly interrupted black marginal line: secondaries sordid whitish, with the two usual disco-anal dusky lines; a slender marginal black line; fringe grey, white at the base. Under surface whitish, speckled with brown; discal lines nearly as above: primaries with the discoidal and interno-discal areas darker, greyish: secondaries with a dusky discocellular spot. Expanse of wings 1 inch.

Yokohama (*Jonas*).

Herminia pryeri. (Plate LVI. fig. 11.)

Greyish brown, with a distinct rosy shot: primaries crossed by four nearly equidistant oblique blackish stripes, the outermost bordered and crossed near apex by a white line; a cream-coloured spot at the end of the cell; a marginal series of subconfluent triangular black spots followed by a slender white line: secondaries crossed by three dark lines, which fade away before reaching the costal margin, the outermost black, edged with white; a marginal white-edged black line: abdomen somewhat pearly, with dusky borders to the segments. Under surface greyish brown, the markings much less distinct than above. Expanse of wings 1 inch.

Yokohama (*Jonas*).

Herminia fentoni. (Plate LVI. fig. 12.)

Greyish brown, crossed by four nearly equidistant dark-brown lines, the first three irregularly undulated, the fourth sinuous, with white external edge; a marginal series of dark-brown triangular spots; fringe alternately grey and whitish from the base outwards: primaries with a black-dotted testaceous discocellular spot. Wings below speckled with dark brown; discocellulars black; lines as above. Expanse of wings 1 inch.

Yokohama (*Jonas*).

BLEPTINA, *Guén.*

Bleptina petrina. (Plate LVI. fig. 13.)

Sandy whitish, speckled with brown: primaries with three subconical costal spots and a very irregular external border dark brown; an ill-defined central brownish line: secondaries with an irregular central belt, a broad external border with zigzag inner edge, and with a zigzag blackish line close to it, reddish brown; all the wings with a marginal series of black dots: head, thorax, and terminal half of abdomen greyish. Wings below sordid white, irrorated with grey; a spot on the costa beyond the middle and three dots towards apex slightly yellowish; a diffused dusky discal belt; a dusky discocellular spot: secondaries with two parallel diffused discal dusky lines and a discocellular spot; all the wings with dusky marginal dots: body sordid whitish. Expanse of wings 1 inch 1 line.

Yokohama (*Jonas*).

Bleptina lignea. (Plate LVI. fig. 14.)

Pale reddish brown: wings with the centre of the disk (between the outer line and the external border) whitish; two irregularly dentate-sinuate blackish lines limiting the central belt, which is also traversed externally by a blackish streak nearly parallel to the outer line; discocellulars black; a slender black marginal line; outer border irregularly sinuated and with a dusky margin internally: primaries with a blackish subapical costal spot enclosing a whitish dot upon the margin: abdomen crossed by a nearly central dusky belt. Under surface sericeous; wings grey, with blackish discocellulars. Expanse of wings 1 inch 1 line.

Yokohama (*Jonas*).

Bleptina morosa. (Plate LVI. fig. 15.)

Primaries above fuliginous brown, paler upon the basicostal area; three blackish spots arranged in a triangular form at the base, an ill-defined blackish line across the basal area; discocellulars blackish; a very irregular pale-bordered blackish central line; a very irregular discal whitish line; a marginal series of pale-edged blackish spots: secondaries much paler, with a slender dusky marginal line; fringe whitish, traversed by a central dusky line: body fuliginous brown, rather paler than the primaries. Wings below pale greyish brown, more or less irrorated with white, with a marginal series of white-edged black spots; fringe whitish, traversed by a grey line: primaries with two white costal dashes beyond the middle: secondaries with a black discocellular spot and two whitish-bordered dusky discal lines. Expanse of wings 1 inch.

Yokohama (*Jonas*).

Bleptina ægrota. (Plate LVII. fig. 1.)

Primaries whity brown, crossed by four equidistant irregularly sinuated whitish-bordered black lines; costa greyish; external area broadly dark grey; a marginal series of subconfluent jet-black spots; fringe whitish, traversed by two series of slaty-grey spots; reniform spot outlined in black: secondaries greyish, growing darker towards the outer margin; two whitish-bordered irregular black lines from the abdominal margin to the radial vein; margin and fringe nearly as in primaries: body whity brown. Primaries below pale brown: secondaries sordid white; all the wings with black discocellular spots; a spot in the cell, two irregular macular discal lines, a marginal series of black spots, and fringe spotted as above with grey: body whitish. Expanse of wings 11 lines.

Yokohama (*Jonas*).

BOCANA, *Walker*.

Bocana tristis. (Plate LVII. fig. 2.)

Slaty grey: primaries much darker than the secondaries; costal border, apical half of fringe, and some spots on the other half blackish; two widely separated denticulated black central lines, and a black >-shaped discocellular marking; a blackish transverse discal streak: secondaries darkest at outer border; a feeble indication of a blackish submarginal line: body corresponding in colour with the wings. Under surface paler, more uniform in colour: wings with a marginal series of jet-black spots; two dusky discal lines, the outer one margined externally with white. Expanse of wings 1 inch 4 lines.

Yokohama (*Jonas*).

MESOPLECTRA, g. n.

Allied to *Bocana*, but the antennæ pectinated on both sides, each pectination terminating in two curved hairs, one longer than the other; the centre of the antennæ slightly swollen and armed with two short incurved spurs; palpi long and curved backwards to a point parallel with the back of the head; anterior tibiæ very broad and flattened, but with no pencil of bristles. Type *M. lilacina*.

Mesoplectra lilacina. (Plate LVII. fig. 3.)

Primaries lilacine grey; central belt indicated by two widely separated irregular dentate-sinuate dark brown lines, the outer one bounded internally by a rather wide band of paler brown, upon which (from the discocellulars downwards) is a dark brown denticulated line parallel to the outer line of the central band; a black >-shaped discocellular marking; outer border bounded internally by a very irregular zigzag diffused blackish line; a marginal series of triangular black spots: secondaries pale smoky brown, with traces of two darker discal lines; a very slender dark marginal line; fringe whitish: body corresponding in colour with

the wings. Under surface pale smoky brown: wings with two ill-defined darker discal lines; primaries with dusky, and secondaries with black discocellular spot. Expanse of wings 1 inch 4 lines.

Yokohama (*Jonas*).

LOCASTRA, *Walker*.

Locastra margarita. (Plate LVII. fig. 4.)

Opaline white: wings with a broad bronze-brown outer border, sinuated internally and only separated by a line of the ground-colour from an interrupted lunulate black line; fringe spotted with brown: primaries with a broad subbasal bronze-brown belt and a black spot close to it upon the inner margin; a subquadrate bronze-brown patch upon the costal margin; head, collar, and thorax spotted with brown; abdomen with two series of black spots; anus and palpi reddish, tibiæ banded with brown; tarsi black, banded with white: wings below with paler markings than above, otherwise similar. Expanse of wings 1 inch 3 lines.

Yokohama (*Jonas*).

EGNASIA, *Walker*.

Egnasia simplex. (Plate LVII. fig. 5.)

Bronzy olive-brown: wings with white discoidal spots; indications of two irregular white discal lines, the inner one beginning upon the costa of primaries with a single white spot, the outer one near the apex of primaries with three white spots; fringe white-spotted: under surface the same as above. Expanse of wings 1 inch 6 lines.

Yokohama (*Jonas*).

Egnasia porphyrea. (Plate LVII. fig. 6.)

Grey, shot with lilacine: primaries with whitish costal border; the central belt limited by irregular and internally diffused blackish bands shot with bronze, the outer band considerably wider than the inner; a broad transverse subapical bronze-brown belt; a small black-edged oval ochraceous spot in the cell, and a whitish-edged blackish spot at the end of the cell: secondaries crossed by two, internally diffused, externally whitish-edged, zigzag blackish discal bands; abdomen with whitish margins to the segments: under surface whity brown, with the markings ill-defined, dusky; white markings nearly as above; discocellulars black, with white borders. Expanse of wings 1 inch 3 lines.

Yokohama (*Jonas*).

Egnasia polybapta. (Plate LVII. fig. 7.)

Basal third of primaries occupied by an oblong patch, the infero-anterior angle of which rests upon the median vein, its superior half rosy brown, its inferior half pale flesh-colour;

centre of the wing occupied by a very irregular broad central band bordered with dark brown and limited externally by a slender white wavy line; its superior half subquadrate and divided into three nearly equal areas, the area within the cell lilacine, with a central black dot, the interior costal area pale creamy, the exterior costal area tawny; inferior half subtriangular, lilacine; external third red-brown internally, lilacine clouded with blackish and whitish externally; an irregular subapical costal spot and below it four black spots with creamy borders arranged in pairs; external border dull orange, fringe dark brown: secondaries pale smoky brown, becoming white upon costal area; fringe creamy whitish; two irregular subparallel dusky discal lines: head grey, collar lilacine with its posterior margin reddish; thorax ochraceous, abdomen pale brown tinted with lilacine. Under surface sericeous, whity brown; a greyish discal line: primaries with the central area greyish; apex grey, fringe grey externally: secondaries with a discocellular dot, a marginal series of dots, and a marginal line dark grey. Expanse of wings 1 inch 2 lines.

Yokohama (*Jonas*).

Egnasia pulcherrima. (Plate LVII. fig. 8.)

Greyish stone-colour; wings crossed by an olive-bordered lunulated white line, broken up into separate lunules on the secondaries: primaries with the basicostal area to apical third clear rosy, clouded, streaked and externally bordered with gravel-yellow; a subapical, almost cuneiform costal white patch, spotted and bordered with pale olive; a subtriangular blackish patch at centre of external area, streaked and spotted with bright rose-colour and saffron-yellow; a black spot just above the origin of the second and third median branches, and below it a sinuous black line running to inner margin; the space between the black line and the basicostal area tinted with olive: secondaries with the base pale rose-coloured, limited externally by a straight slender blackish line; an irregular blackish line across the wing near the base; discal lunules terminating in a dark red and saffron-yellow dash upon the abdominal area; palpi and back of head whitish; thorax pale rose-colour, clouded with dull yellow; two red-brown dots at base of abdomen. Under surface greyish stone-colour, blackish lines of the upper surface replaced by greyish or dusky lines; costal two thirds of primaries reddish, terminating in a bifid white spot; a submarginal series of black dots. Expanse of wings 1 inch 2 lines.

Yokohama (*Jonas*).

Egnasia pusilla. (Plate LVII. fig. 9.)

Pale brownish stone-colour; wings with a marginal series of black dots; wings crossed by two very irregular slender white-edged black lines: primaries with an angulated black stripe between the two black lines, the area between it and the outer line blackish; a white-edged black discocellular crescent-shaped spot: costal margin crossed by small black and white dashes; a blackish patch on the costa just beyond the outer transverse line; an

irregular pale discal line through all the wings: head white, palpi black; fringes spotted with blackish. Wings below speckled with black, the outer black line of the upper surface strongly defined; marginal dots and discocellulars black: primaries with an abbreviated black line indicating the black stripe of the upper surface. Expanse of wings 9 lines.

Yokohama (*Jonas*).

CELEOPSYCHE, g. n.

Allied to *Marimatha*; palpi porrect, compressed, cuneiform, with very short terminal joint: antennæ very thick, simple. Primaries with angulated outer margin, slightly excavated below apex; secondaries subangulated; legs rather short, compressed. Type *C. nitens*.

Celeopsyche nitens. (Plate LVII. fig. 10.)

Pale laky brown or dull rose-colour, sericeous: wings crossed in the centre by a blackish streak, incurved on the primaries; an undulated blackish discal line: primaries with blackish costal margin, crossed before the middle by short oblique black dashes and beyond the middle by white dots; an irregular blackish line across the basal area; a bisinuated externo-discal blackish belt, bounded outwardly by a plumbaginous belt; a marginal series of dots, black internally and white externally: secondaries with a broad diffused orange border; costal area greyish; abdominal border white: back of head and scape of antennæ snow-white; legs creamy white; collar and prothorax tinted with orange; abdomen crossed by grey belts. Primaries below greyish brown, speckled with grey, four white costal dots beyond the middle: secondaries whity brown, crossed by two central curved grey stripes; fringes grey: body creamy white. Expanse of wings 9 lines.

Yokohama (*Jonas*).

MARMORINIA, *Guén.*

Marmorinia obscurata. (Plate LVII. fig. 11.)

Dark brown, with a lilacine tint; a blackish angulated stripe across the basal area and a broad blackish discal belt: primaries with the discal belt forked near the costa, so as to enclose a large pale cuneiform costal spot, bounded externally by a pale sinuated line and followed by a second similar line; fringe alternately black and whitish: secondaries slightly paler than the primaries, especially towards the costal margin; discal blackish belt not reaching the costal margin, bounded on both sides by sinuated yellowish lines; outer border blackish, fringe reddish. Under surface bronzy olive-brown; wings crossed by two or three darker curved lines; discoidal spots indistinctly visible, greyish with dark margins; costal border of primaries irrorated with white. Expanse of wings 1 inch 3 lines.

Hakodaté (*Whitely*).

Marmorinia amphidecta. (Plate LVII. fig. 12.)

Pale brownish stone-colour, clouded with olivaceous: wings deeply excised and denticulated, with a discal series of small brown-bordered pearly lunules, an irregular sinuated brown line limiting the external border, a submarginal series of black dots, a narrow marginal reddish clay-coloured stripe, and pale fringe; reniform spot represented by several spots of pearly white arranged in the form of a B, the central line being represented by the apex of a triangular spot; central belt indicated below the cell by two undulated brown lines, the inner one with a pale border, triangular above the cell, chocolate-brown streaked with black, pale brown, and blue and interrupted upon the costa by white dots: secondaries with several white-bordered black spots at the end of the cell; a red-brown streak, below which is a black-edged lilac stripe, from the end of the cell to the abdominal margin: head and prothorax whitish. Under surface redder; wings crossed by blackish lines, with white spots as above. Expanse of wings 1 inch 5 lines.

Yokohama (*Jonas*).

M. Guénée referred the genus *Marmorinia* to the Noctuites; but there seems to be no doubt that it is closely allied to *Egnasia, Marimatha,* &c.

AMBLYGOES, *Butler*.

Apphadana (*bis lectum*), *Walker*.

Amblygoes cinerea. (Plate LVIII. fig. 1.)

Primaries ashy grey, crossed by three oblique equidistant dark-brown lines with ochraceous margins, the outermost line subangulated, so as to run to the apex; a submarginal series of black dots; marginal line blackish; secondaries greyish brown, becoming grey at the outer border, a double abbreviated dark-brown stripe from the anal angle: a marginal series of black dots; body corresponding in colour with the wings; palpi and upper surface of anterior legs ferruginous. Under surface altogether paler, crossed in the middle by a single grey line; a marginal series of very minute black dots; fringe traversed by a central grey line: primaries with the costa slightly yellowish, with a nearly central dusky spot: secondaries whity brown speckled with grey, and becoming quite white upon the abdominal area; a black discocellular spot. Expanse of wings 1 inch.

Yokohama (*Jonas*).

The generic name *Apphadana* was first applied by Walker to an American Noctuid.

MARIMATHA, *Walker.*

Marimatha straminea. (Plate LVIII. fig. 2.)

Primaries stramineous, sericeous; the base of costa, two widely separated central transverse lines and a dot between them, at the end of the cell, blackish: secondaries white, slightly tinted with stramineous upon the external border: body stramineous, top of head blackish; anterior coxæ and sides of femora silvery. Primaries below paler than above, the cell greyish; inner transverse line absent: secondaries with a dot at the end of the cell and an arched discal line grey. Expanse of wings 10 lines.

Yokohama (*Jonas*).

PYRALIDÆ.

PYRALIS, *Linn.*

Pyralis elachia. (Plate LVIII. fig. 3.)

Allied to *P. farinalis,* but altogether greyer in tint, the basal areas of all the wings blackish, the central belt of primaries whity brown, its white margins nearly straight, very slightly sinuated; external area more even in width, altogether more dusky in tint, not red at apex; the centre of costal margin alternately black and white; a whity brown basal spot: central belt of secondaries further from the outer margin darker; external area altogether whiter; black spots and fringes as in *P. farinalis*: body whity brown, the abdomen banded with blackish. Primaries below shining greyish brown; costal margin black, dotted with white, otherwise without markings: secondaries whitish, irrorated with grey and crossed in the middle by two parallel lunulated grey lines; a marginal series of grey dots: body below whity brown. Expanse of wings 11 lines.

Yokohama (*Jonas*).

Pyralis fraterna. (Plate LVIII. fig. 4.)

Allied to *P. farinalis,* but altogether greyer in tint; the white lines on the wings more slender, the basal and apical areas of primaries shining greyish brown instead of ferruginous; the central belt broader and duller in colour: secondaries more uniform grey, the marginal black spots confined to the anal angle; abdomen black, the third, fourth, and anal segments fulvous in the centre. Under surface greyer than in *P. farinalis,* but with similar markings. Expanse of wings 11 lines.

Yokohama (*Jonas*).

Pyralis nannodes. (Plate LVIII. fig. 5.)

Allied to *P. glaucinalis*, considerably smaller, the primaries of a more sandy tint, the transverse lines dusky with yellowish external edges, angulated much nearer to the costal margin; a blackish discocellular dot; fringe purplish with a yellow basal line and a rosy central line: secondaries with the central white lines more irregular; fringe as in primaries: body corresponding in tint with the wings. Under surface much paler, the lines obsolete. Expanse of wings 9 lines.

Yokohama (*Jonas*).

MICROSCA, g. n.

Allied to *Osca*, the palpi less porrect and with shorter terminal joint; spines of hind tibiæ longer; primaries with the outer margin more or less convex. Type *M. hedilalis* (*Pyralis hedilalis*, Wlk.).

Microsca pallida. (Plate LVIII. fig. 7.)

Whitish, sericeous; wings reticulated with dark brown, the basal and external areas clouded with pale cupreous brown; two narrow ill-defined cupreous-brown discal bands partially margined and dotted with black; primaries with a black-edged bifid apical white spot: wings below nearly as above, but less distinctly reticulated. Expanse of wings 1 inch.

Yokohama (*Jonas*).

Microsca exusta. (Plate LVIII. fig. 8.)

Similar in colour to the preceding species, but with the basal half of the wings deeper, with one ill-defined blackish-edged central band; a curved subapical black-edged brown fasciole in the primaries, the body darker: wings below whitish, with well-defined central red-brown band; primaries with the costa at apex and a subapical fasciole red-brown; reticulations less strongly defined than above: pectus and legs pale reddish brown. Expanse of wings 1 inch 1 line.

Yokohama (*Jonas*).

Microsca ardens. (Plate LVIII. fig. 9.)

Pale reddish brown reticulated with darker brown; basal half deeper in colour than the external half, and limited by a blackish-edged ferruginous central band; each wing also with black-edged subapical and subanal fascioles; fringe black-spotted externally: primaries with grey costal border, spotted beyond the middle with ferruginous; two transverse brown lines across the basal area: body red-brown, prothorax greyish. Under surface with the ground-colour paler and the markings darker than above. Expanse of wings 1 inch 1 line.

Yokohama (*Jonas*).

AGLOSSA, *Latr.*

Aglossa achatina. (Plate LVIII. fig. 6.)

Primaries shining whity brown, mottled and banded with pale laky brown, the costa and basal area spotted, the central area crossed by two broad irregularly dentated belts, the external area indistinctly spotted; a marginal series of black dots: secondaries sericeous, sordid whitish, costal and apical areas slightly brownish: body testaceous, the tegulæ spotted with laky brown. Primaries below greyish, the markings barely distinguishable excepting upon the borders; secondaries with a very indistinct greyish discal streak; otherwise as above. Expanse of wings 1 inch 1 line.

Yokohama (*Jonas*).

ENNYCHIIDÆ.

RHODARIA, *Guén.*

Rhodaria placens. (Plate LVIII. fig. 10.)

Primaries golden yellow, densely speckled with blackish and lake-red; two widely separated transverse yellow stripes, between which the costal margin is alternately yellow and lake-red; fringe very long, golden yellow, with a broad internal lake-red stripe, rosy at apex and external angle: secondaries pale pinky brown, densely speckled with dark brown, with one central undulated dusky-margined pale stripe; fringe rather paler than in primaries: body pale brown, yellowish in front and laky behind. Under surface pale pinky brown, densely speckled with dark brown: primaries with a yellow spot beyond the middle of the costa; apical area rosy; fringe as above: secondaries as above: legs rosy, tarsi whitish. Expanse of wings 1 inch.

Yokohama (*Jonas*).

Rhodaria amata. (Plate LVIII. fig. 11.)

Primaries above cream-coloured, spotted with saffron-yellow; the costal margin, outer border, a broad oblique discal stripe, and a dot below the cell rose-red: secondaries pale whity brown, with scarcely distinguishably darker central belt and external border: body pale whity brown; head and collar rose-red. Wings below pale sericeous whity brown, slightly tinted with dull rose-red on the costal areas: primaries with the discoidal area slightly greyish: body testaceous. Expanse of wings 8 lines.

Yokohama (*Jonas*).

ENNYCHIA, *Treit.*

Ennychia assimilis. (Plate LVIII. fig. 12.)

Closely allied to *E. octomaculalis,* but larger, with the white spots (especially upon the disk of the wings) considerably larger, and the secondaries below without any trace of the white costal streak. Expanse of wings 1 inch.

Hakodaté (*Whitely*).

Ennychia limbata. (Plate LVIII. fig. 13.)

Near to *E. nigralis,* but easily distinguished by the snow-white fringes to all the wings. Expanse of wings 8 lines.

Yokohama (*Jonas*).

Ennychia astrifera. (Plate LVIII. fig. 14.)

Closely allied to *E. octomaculalis,* but blacker, the inner white spots smaller; the fringe of primaries almost wholly black, the tegulæ bright saffron-yellow, and the abdominal bands less clearly defined. Expanse of wings 11 lines.

Yokohama (*Jonas*).

DESMIA, *Westw.*

Desmia stellaris. (Plate LVIII. fig. 15.)

Nearly allied to *D. afflictalis* of Guénée, but differing from it in the much smaller white spots on the wings. Expanse of wings 8 lines.

Yokohama (*Jonas*).

SAMEA, *Guén.*

Samea butyrosa. (Plate LIX. fig. 1.)

Clear shining pale stramineous; wings with a narrow dark-brown marginal border; fringe whitish, with a dark-grey central line; a spot in each cell, the outlines of the reniform spots, an irregular line across the middle and a transverse abbreviated line across the costal area of each wing blackish: head and thorax greyish, abdomen white: under surface creamy yellow; markings obsolete, wanting on secondaries. Expanse of wings 10 lines.

Yokohama (*Jonas*).

Samea magna. (Plate LIX. fig. 2.)

Pale greyish brown, with a slight cupreous tinge; wings crossed by two very irregular dusky lines of the usual form, representing the limits of the central band, which is bounded on each side by a more or less interrupted belt of pale straw-yellow; discocellular spots blackish; base of abdomen and margins of the segments whitish. Under surface of wings whitish grey, the markings of the upper surface feebly visible: body white. Expanse of wings 1 inch 4 lines.

Hakodaté (*Whitely*).

Samea usitata. (Plate LIX. fig. 3.)

Semitransparent pale gamboge-yellow, with a broad external border, shining greyish brown with cupreous reflections; two very irregular dark-brown lines of the ordinary form: primaries with greyish-brown costal border; the usual discoidal spots dark brown: body whity brown, head and margins of the abdominal segments white. Under surface shining whitish, the markings of the upper surface indistinctly visible. Expanse of wings 10½ lines.

Yokohama (*Jonas*).

Allied to "*Botys*" *tædialis.*

Samea gracilis. (Plate LIX. fig. 4.)

Pale gamboge-yellow; wings with a broad silvery greyish external border, the two ordinary irregular lines greyish brown: primaries with the discoidal spots large and greyish brown, a third spot of the same colour below the cell; fringe and abdominal area of secondaries white; body sordid, abdomen whitish: wings below silvery whitish, the markings greyer than the ground-colour; body white. Expanse of wings 1 inch.

Yokohama (*Jonas*).

Allied to "*Botys*" *insipidalis*, Lederer, with the coloration of "*Botys*" *matutinalis.*

ASOPIA, *Guén.*

Asopia misera. (Plate LIX. fig. 5.)

Nearly allied to *A. vulgaris*, but readily distinguished by the grey ground-colour of the wings and body, and the white margins to the abdominal segments. Expanse of wings 10 lines.

Yokohama (*Jonas*).

HYMENIA, *Hübn.*

Hymenia tricolor. (Plate LIX. fig. 6.)

Dark bronzy brown with a very feeble lilacine tint; fringe narrow, white at anal angles; primaries with a small spot in the cell, a second just below it, and a large spot just beyond the cell stramineous; secondaries with an irregular central belt, broad to just beyond the first median vein and then abruptly narrowed, stramineous; inner surface of palpi, the antennæ, and the hind margins of the segments whitish. Primaries below silvery brown, with dusky-bordered white spots, similar to the stramineous spots of the upper surface: secondaries white, with a broad irregular outer border and two unequal central spots silvery brown: body below white. Expanse of wings 1 inch.

Yokohama (*Jonas*).

HYDROCAMPIDÆ.

OLIGOSTIGMA, *Guén.*

Oligostigma corculina. (Plate LIX. fig. 7.)

Snow-white; primaries with the basal two thirds of costa dark brown; two dark-brown stripes (with buff and white central lines towards the costa) crossing one another in the form of a *4* and uniting at basal third with a third ill-defined dark-brown transverse line; external two thirds of inner border brown, gradually shading off into the outer border, which is orange with an internal black edge; a marginal series of black dots; fringe with a central grey line: secondaries crossed by two divergent dark-brown stripes, the outer one submarginal and streaked with buff; marginal border and fringe as in primaries: body banded with dark brown. Under surface altogether paler, with similar markings, but the discal stripes pale buff, with black internal margins. Expanse of wings 8 lines.

Yokohama (*Jonas*).

HYDROCAMPA, *Latr.*

Hydrocampa cretacea. (Plate LIX. fig. 8.)

Chalky white; wings crossed by two pairs of black-spotted testaceous lines, widely separated and inarched on the primaries; an internally black-edged pale testaceous marginal line; discocellular spots snow-white, with testaceous margins: primaries with the centre of the costa and a submarginal apical spot snow-white; head and thorax snow-white, palpi black, with yellowish inner surfaces: under surface altogether paler. Expanse of wings 7 lines.

Yokohama (*Jonas*).

SPILOMELIDÆ.

ZEBRONIA, *Hübn.*

Zebronia argyria. (Plate LIX. fig. 9.)

Silvery white; primaries with three spots at the base, a spot in the cell, a spot closing the cell, one upon the costa towards apex, and one near the external angle black; secondaries with a spot at the end of the cell, a second on the costa near apex, a third near the centre of outer margin, and a fourth (from which a pale brownish streak runs into the wing) at anal angle black: abdomen with two basal black dots: spots below less defined than above. Expanse of wings 1 inch.

Hakodaté (*Whitely*).

Near to *Z. lactiferalis.*

BOTIDIDÆ.

ASTURA, *Guén.*

Astura striata. (Plate LIX. fig. 10.)

Primaries above golden orange; the costal margin, a spot at the base, two discoidal spots, and nine internervular discal streaks black; fringe greyish brown: secondaries ochreous, with a series of almost marginal subconfluent hastate dashes: body ochreous, tegulæ spotted with orange, abdomen blackish at the sides. Wings below ochreous with internervular greyish-brown streaks; pectus testaceous, venter greyish. Expanse of wings 1 inch 2 lines.

Yokohama (*Jonas*).

BOTYS, *Latr.*

Botys inornata. (Plate LIX. fig. 11.)

Primaries bright sericeous ochreous; secondaries greyish brown, with pale stramineous fringe; thorax reddish ochraceous, abdomen pale stramineous: under surface pale stramineous; centre of primaries and venter greyish. Expanse of wings 1 inch 5 lines.

Yokohama (*Jones*).

Botys aurea. (Plate LIX. fig. 12.)

Wings above golden yellow, sericeous, the two usual lines, discocellulars, and outer borders pale brown with a faint rosy gloss; fringe silvery greyish: thorax silvery white; head,

collar, and abdomen testaceous. Under surface altogether paler, discocellulars blackish. Expanse of wings 1 inch 3 lines.

Yokohama (*Jonas*).

Allied to *B. togalis*, Led.

Botys arbiter. (Plate LIX. fig. 13.)

Bright shining stramineous: primaries crossed by three convergent brown stripes, black upon the costa, the two outer lines uniting on the internal area; a submarginal curved greyish stripe: secondaries crossed by two slightly divergent subparallel brown stripes; a submarginal greyish stripe. Under surface pale golden yellow, shining, without markings. Expanse of wings 11 lines.

Yokohama (*Jonas*).

CIRCOBOTYS, g. n.

Allied to *Cœnostula*, but the primaries very narrow, extremely produced and subfalcate at apex, consequently with very oblique outer margin; the secondaries unusually small, almost triangular: abdomen slender, extending for some distance beyond the secondaries. Type *C. nycterina*.

Circobotys nycterina. (Plate LIX. fig. 14.)

Pale greyish brown; primaries with the discocellulars and a costal spot halfway between the cell and apex dusky; external area dusky; the fringe from near apex and a marginal series of spots stramineous: secondaries rather paler than the primaries, darkest at apex; fringe, excepting at anal angle, stramineous: head, collar, tegulæ, hind margins of abdominal segments, and anus testaceous; antennæ and palpi stramineous; basal fringe of palpi, collar below, pectus, and legs white; venter testaceous, sprinkled with whitish scales. Wings below as above. Expanse of wings 1 inch 1 line.

Yokohama (*Jonas*).

SCOPULA, *Schr.*

Scopula testacea. (Plate LIX. fig. 15.)

Primaries testaceous, the discoidal spots, one or two dots below the cell, an undulated arched discal line, and the fringe grey: secondaries whitish, tinted with testaceous towards the outer margin; a spot at the base of the median branches and an arched macular discal streak grey; a marginal series of blackish dots: thorax testaceous, abdomen white. Under surface paler, the primaries slightly greyish in the centre. Expanse of wings 10 lines.

Yokohama (*Jonas*).

Nearly allied to *S. martialis* of Africa.

GALLERIIDÆ.

MELISSOBLAPTES, *Zell.*

Melissoblaptes tenebrosus. (Plate LX. fig. 1.)

Allied to *M. bipunctanus,* rather smaller and darker, but with much whiter secondaries; the orbicular spot irregular and very indistinct, but the reniform jet-black; the pale-bordered discal dusky line nearer to the outer margin and not excavated towards the costa, but forming a regular arch. Expanse of wings 1 inch.

Yokohama (*Jonas*).

CRAMBIDÆ.

CRAMBUS, *Fabr.*

Crambus whitelyi. (Plate LX. fig. 2.)

Form of *C. inquinatellus*; primaries very pale brown with a feeble lilacine tint; discoidal spots black, united by a longitudinal black line; a sinuous discal series of black dots; outer border dusky, limited at apex by a blackish oblique dash; a marginal series of black dots: secondaries sordid white: body corresponding in colour with the wings. Wings below sordid white, primaries with greyish discoidal area; body white. Expanse of wings 1 inch 2 lines.

Hakodaté (*Whitely*).

TORTRICIDÆ.

PANDEMIS, *Hübn.*

Pandemis sinapina. (Plate LX. fig. 3.)

Primaries bright straw-yellow, reticulated with fulvous, and crossed (at first and second thirds) by two oblique ferruginous lines shot with lilac; a transverse submarginal ferruginous litura at apex: secondaries sericeous greyish brown, with white fringe traversed by a grey line: body corresponding in colour with the wings. Primaries below dead golden, with pale yellow fringe: secondaries white; body below whitish, palpi yellow. Expanse of wings 1 inch.

Yokohama (*Jonas*).

CACOECIA, *Hübn.*

Cacoecia similis. (Plate LX. fig. 4.)

Nearly allied to *C. podana* of Europe, but the primaries laky brown, tinted here and there with lilac, reticulated with blackish and banded with deep ferruginous: the secondaries also much deeper in tint. Under surface brilliant golden cupreous. Expanse of wings 1 inch 3 lines.

Yokohama (*Jonas*).

The European species looks dull and worn by the side of this form.

SCIAPHILA, *Treit.*

Sciaphila fumida. (Plate LX. fig. 5.)

Primaries smoky greyish brown, sericeous; discocellular spot blackish: secondaries white, becoming greyish towards the outer margin, which is narrowly smoky brown; body grey, mottled and banded with black. Primaries below with the basal two thirds greyish white, with pink costal margin; venter whitish, banded with grey; legs grey, banded with black; otherwise as above. Expanse of wings 10 lines.

Yokohama (*Jonas*).

Sciaphila cupreifera. (Plate LX. fig. 6.)

Primaries white, densely speckled with black; two or three small scattered black spots and a marginal series; two abbreviated oblique cupreous-brown belts from the costa; fringe brown: secondaries greyish brown, with the fringe and basal area whitish: body corresponding with the wings in colour. Under surface white, the costal borders of the wings and body cream-coloured speckled with black; primaries with a subapical blackish patch and a series of black marginal spots. Expanse of wings 9 lines.

Yokohama (*Jonas*).

PHOXOPTERYX, *Treit.*

Phoxopteryx pulchra. (Plate LX. fig. 7.)

Primaries shining creamy whitish; costal margin, excepting at apex, crossed by numerous little black dashes; a large irregular black-mottled grey patch on interno-basal area; remainder of internal area dusky; a broad irregular oblique red-brown belt just beyond the middle; two or three streaks and a triangular spot of red-brown at apex; fringe white: secondaries grey; the basicostal area and a line at the base of the fringe white: body

testaceous; legs and palpi white. Primaries below pale sericeous brown: secondaries silvery white with brownish costa: venter white. Expanse of wings 7 lines.

Yokohama (*Jonas*).

Allied to *A. consequana* and to "*Grapholitha*" *sinuana* of Felder.

PENTHINA, *Treit.*

Penthina cuphostra. (Plate LX. fig. 8.)

Primaries silvery white, mottled with grey; costa crossed by short black dashes; basal area, a broad irregular oblique central belt, and an oblique abbreviated subapical stripe from the outer margin grey, margined and clouded with black; fringe white intersected by a blackish line, beyond which there is a series of black spots: secondaries with the basal half white and the external half grey; fringe white intersected by a grey line; thorax white mottled with black; abdomen grey. Wings below altogether paler and more uniform in colour; primaries brownish, with no markings excepting on the costal area: body white. Expanse of wings 7 lines.

Yokohama (*Jonas*).

Allied to *P. rupestrana*.

Penthina acharis. (Plate LX. fig. 9.)

Basal half of primaries whitish, striated and mottled with grey; costal border whitish, crossed by short oblique black lituræ; a central irregular dull clay-coloured black-speckled whitish-edged belt; apical half of subcostal area clay-coloured, centre of disk grey, external angle whity brown; disk crossed by a number of longitudinal whitish-edged black lines: secondaries greyish brown, darkest at apex, with whitish costal area; a submarginal line and the fringe stramineous: body pale stramineous speckled with grey. Wings below sericeous brown, with pale margins; secondaries greyish, much paler than the primaries: body pale stramineous. Expanse of wings 9 lines.

Yokohama (*Jonas*).

Possibly referable to Stainton's group *Euchromia*, but this name is preoccupied.

CHOREUTIDÆ.

SIMÆTHIS, *Leach.*

Simæthis hyligenes. (Plate LX. fig. 10.)

Fuliginous brown, primaries crossed by four or five irregularly lunulated black-edged dull yellowish-brown stripes; the black lines much as in *S. pariana* of Europe; fringe alternately slaty grey and pale brown: secondaries darkest on external area, costa white; a

central transverse series of four ochraceous spots and three others, submarginal, near the anal angle; apical half of fringe and a basal line on the anal half whitish: abdomen with a cupreous lustre. Wings below dull ochraceous: primaries with the subcostal area and two sinuated submarginal lines brown; three black dots and two oblique white dashes on the costa; fringe as above: secondaries crossed beyond the middle by a whitish stripe; several brown anal spots; fringe as above: body whitish testaceous; legs banded with black. Expanse of wings 8 lines.

Yokohama (*Jonas*).

More nearly allied to *S. nemorana* than to any other known species.

HYPONOMEUTIDÆ*.

HYPONOMEUTA, *Zell.*

Hyponomeuta polysticta. (Plate LX. fig. 11.)

Allied to *H. padi*, but considerably larger, the primaries more silvery, with the black dots much larger, the fringe wholly white: secondaries darker, the fringe white at apex. Wings below altogether darker, the fringes as above. Expanse of wings 1 inch 3 lines.

Yokohama (*Jonas*).

PLUTELLIDÆ.

CEROSTOMA, *Latr.*

Cerostoma strigosa. (Plate LX. fig. 12.)

Form of *C. nemorella*: sericeous whity brown: primaries with the costal border, the subapical sinus, and one or two ill-defined lines on the external border dark olive-brown; a longitudinal subcostal snow-white streak from the base to the apex; a black dot on the discocellulars, a second on interno-median area, and a third near the base; a longitudinal, terminally upcurved, lilacine streak: secondaries with dusky external border; fringe pale testaceous with a dusky basal streak. Wings below greyish, with brassy reflections: body below and legs pale yellowish, the posterior legs with the tibiæ beyond the spines and the tarsi fuliginous. Expanse of wings 1 inch.

Yokohama (*Jonas*).

* It seems extremely probable that this family will have to be referred to the Bombycites, where it would follow the *Lithosiidæ*.

GELECHIIDÆ.

DEPRESSARIA, *Haw.*

Depressaria nomia. (Plate LX. fig. 13.)

Near to *D. heracliana* of Europe, paler and more sericeous; primaries with two whitish discoidal spots partly enclosed in black dots; an ill-defined discal series of longitudinal black internervular lines or dashes and a marginal series of black spots. Under surface very pale silvery brown, anterior legs with the upper margin black. Expanse of wings 1 inch.

Yokohama (*Jonas*).

ŒCOPHORA, *Zell.*

Œcophora enopisema. (Plate LX. fig. 14.)

Primaries bright coppery red, with the costal border and fringe bright golden; wings crossed by three slender black-edged silver stripes, the two outer ones widely divergent: secondaries greyish brown, with the costa white to the middle; head and base of antennæ silvery white, palpi and thorax dark coppery red: abdomen brown, with fulvous anal tuft. Under surface sericeous greyish brown: primaries with golden fringe; legs whitish. Expanse of wings 6½ lines.

Yokohama (*Jonas*).

TINEIDÆ.

SAFRA, *Walker.*

Safra lignea. (Plate LX. fig. 15.)

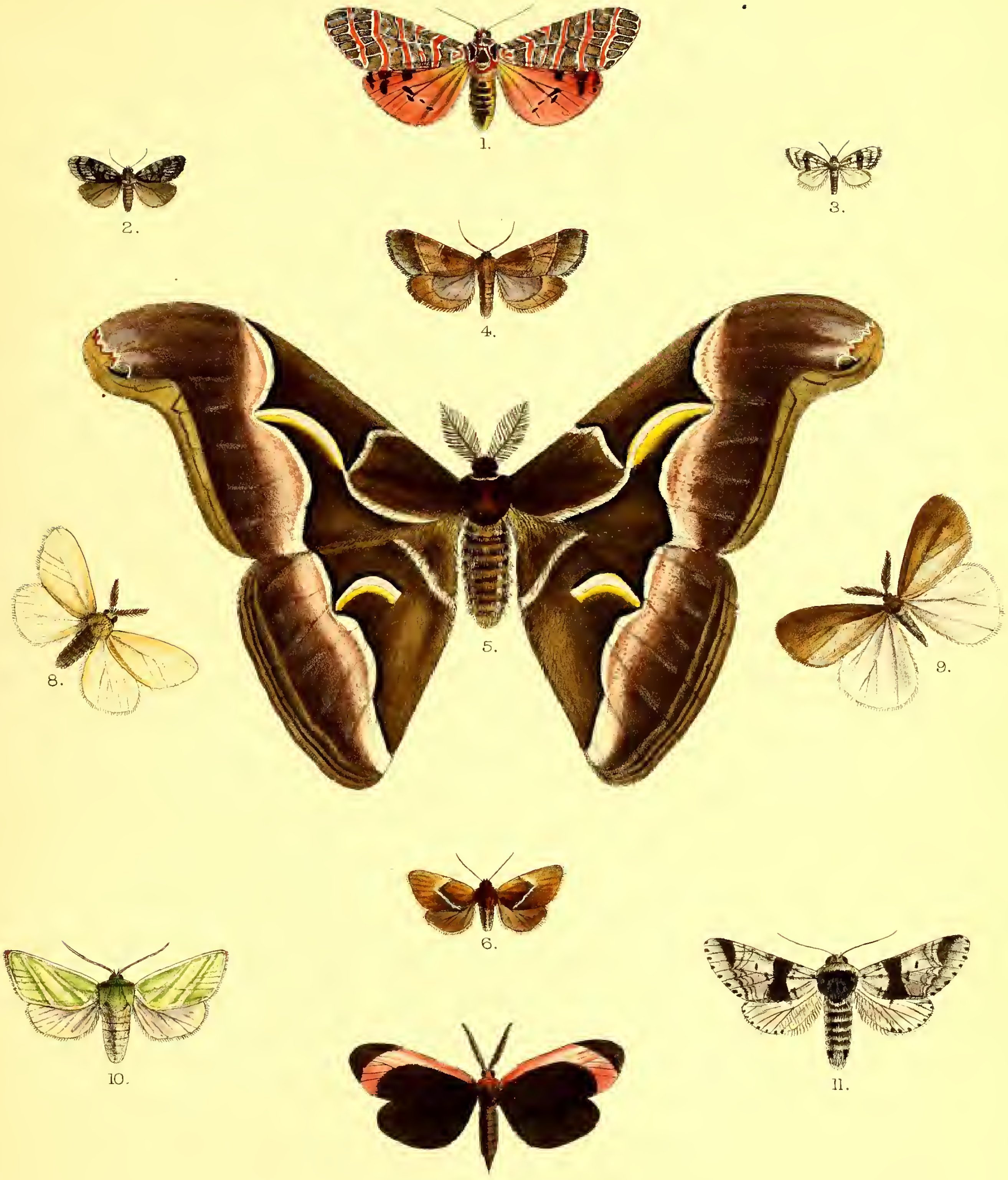
Primaries whity brown with a pink tinge, sericeous, crossed by a multitude of irregular undulated black streaks, ill-defined on the inner border: secondaries pearly whitish with whity-brown fringe: head dull reddish brown; thorax coloured like the primaries; abdomen whitish. Under surface pearly; primaries showing the markings indistinctly, owing to their semitransparent character. Expanse of wings 1 inch 3 lines.

Yokohama (*Jonas*).

R. Mintern & A. Searle, del.

Mintern Bros imp

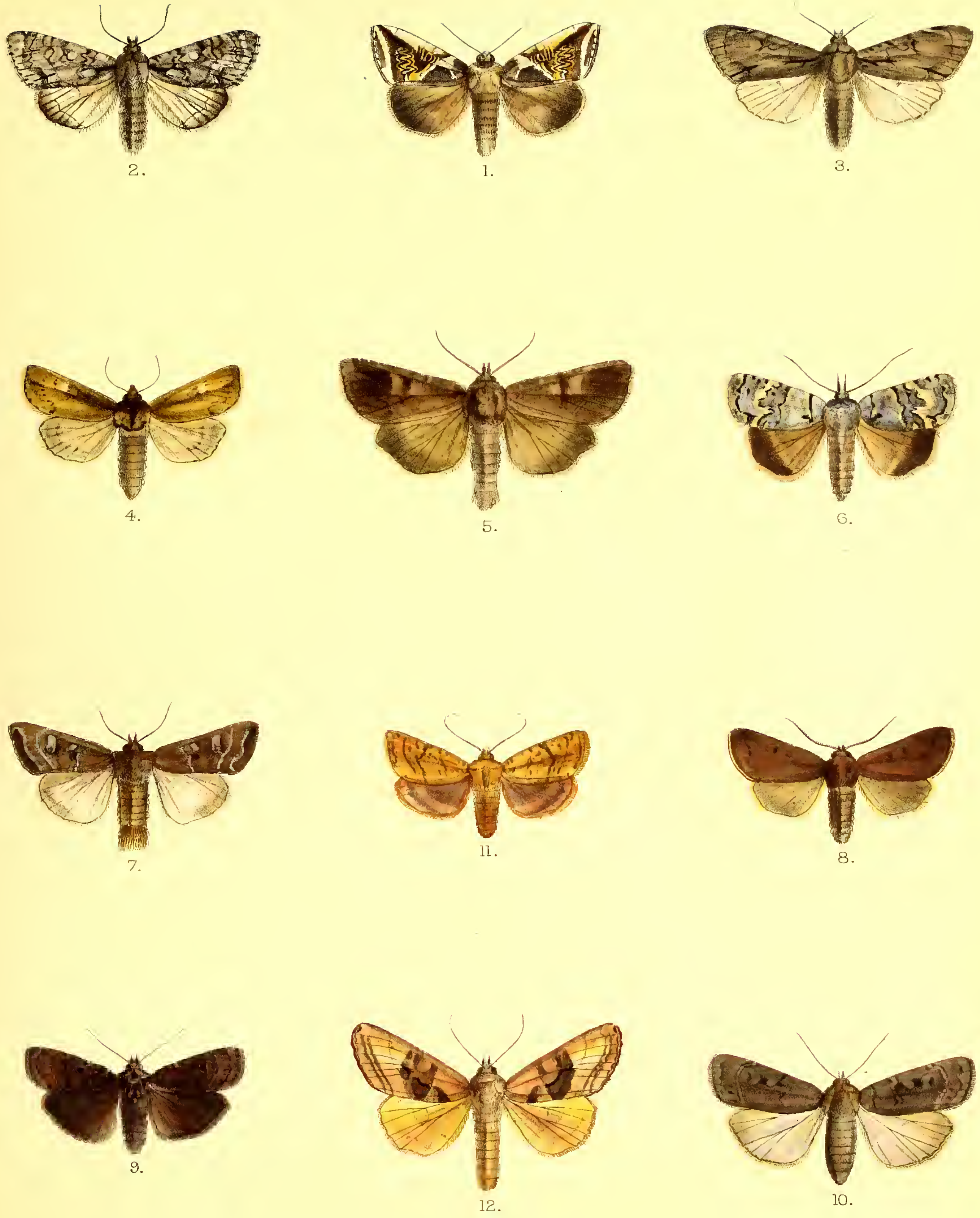
1. Chærocampa suffusa.
2. Chærocampa pallicosta.
3. Triptogon roseipennis.
4. Triptogon complacens.
5. Acherontia medusa.
6. Diludia discistriga.
7. Diludia increta.



R. Mintern & A.H. Searle del.

Mintern Bros imp.

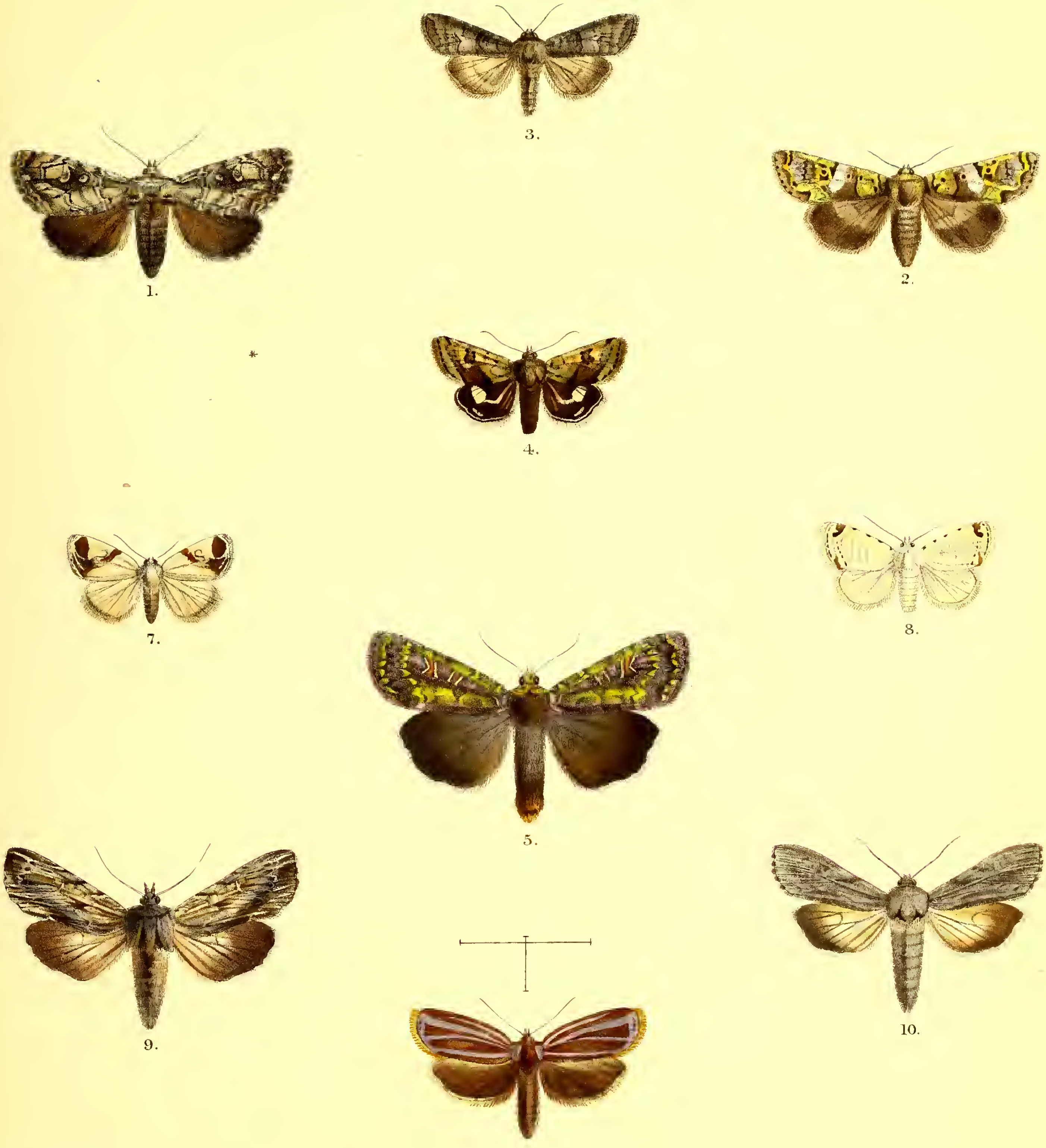
1. Tatargyna formosa. 4. Datanoides fasciata. 7. Retina costata.
2. Nola fumosa. 5. Attacus pryeri. 8. Lælia sinensis.
3. Nola candida. 6. Phrixolepia sericea. 9. Pantana ampla.
10. Hylophila sylpha. 11. Cerura lanigera.



R. Mintern & A. H. Searle del.

Mintern Bros imp.

1. Gonophora derasoides.
2. Acronycta leucocuspis.
3. Acronycta increta.
4. Leucania ærata.
5. Alysia grisea.
6. Dandaca senex.
7. Agrotis illoba.
8. Agrotis odiosa.
9. Hermonassa cecilia.
10. Graphiphora caliginea.
11. Dasycampa fornax.
12. Phlogophora beatrix.



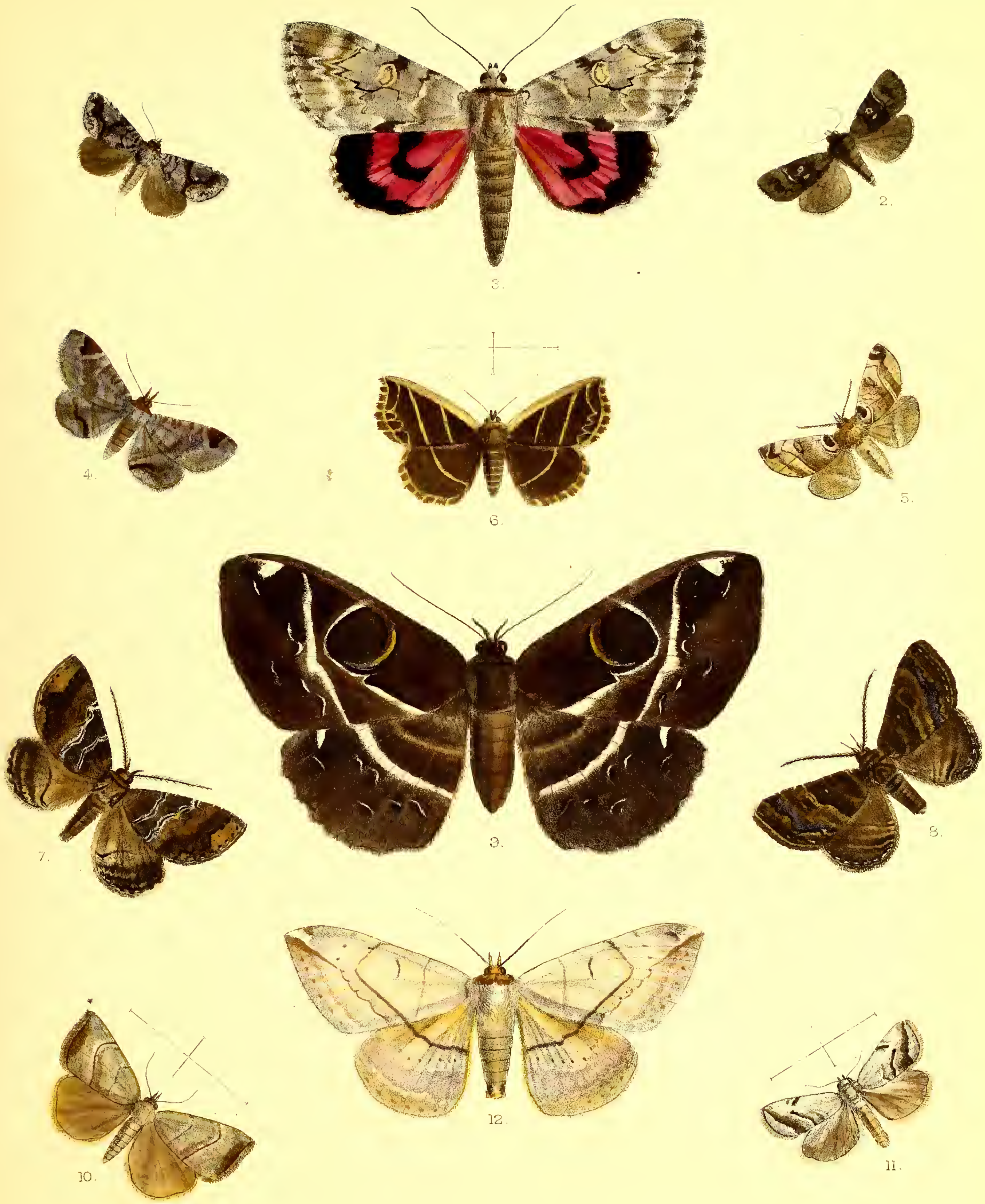
R. Mintern & A. H. Searle del.

Mintern Bros. imp.

1. Aplectoides nitida.
2. Hadena lucia.
3. Xylina arctipennis.
4. Heliothis adaucta.
5. Eurois virens.
6. Ariola pulchra.
7. Acontia biplagiata.
8. Acontia bimacula.
9. Lithophane saga.
10. Cucullia fraterna.

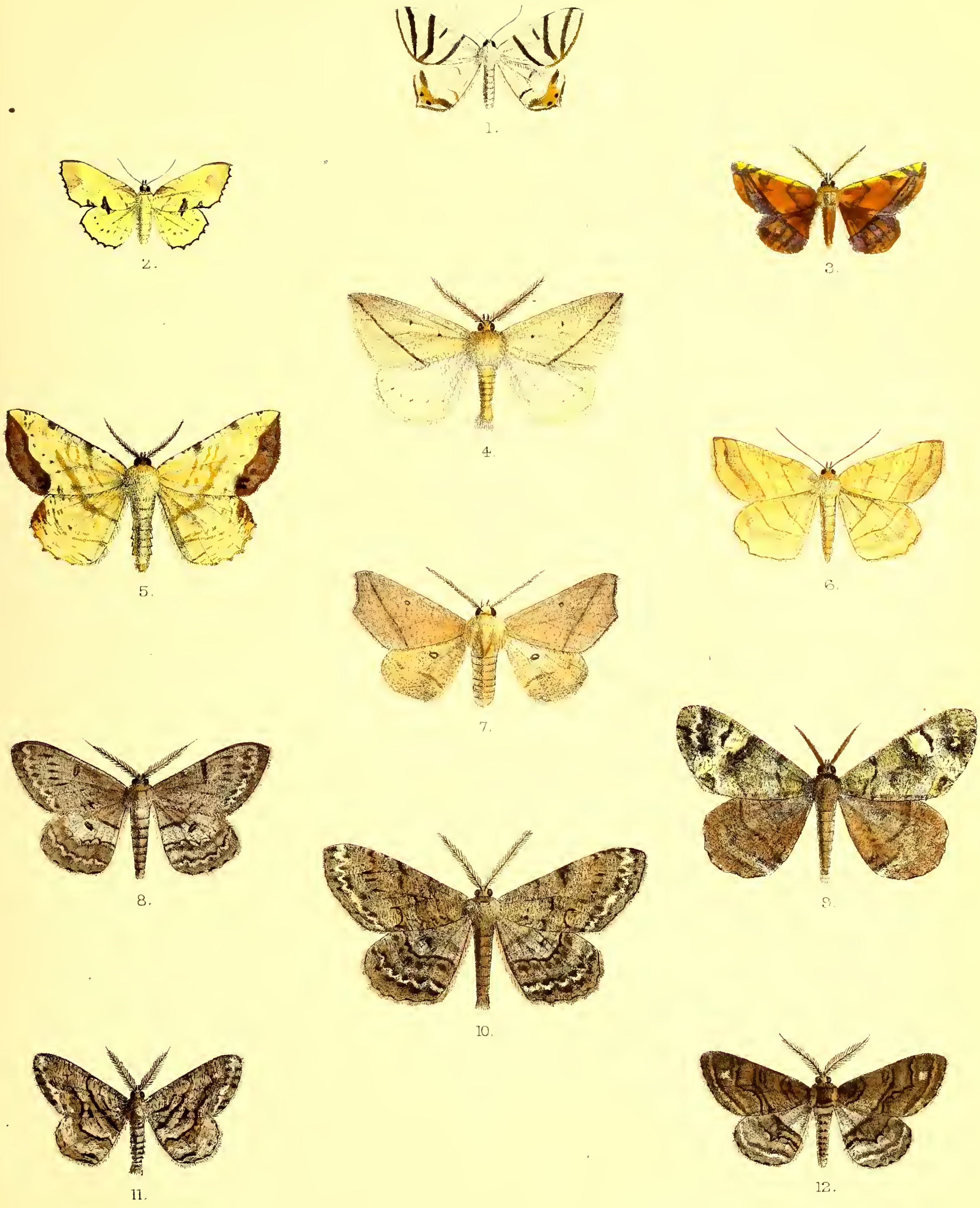
R. Mintern & A. H. Searle del. Mintern Bros. imp.

1. Acontia maculosa.	5. Scedopla regalis.	9. Nænia muscosa.
2. Erastria stygia.	6. Plusia jessica.	10. Catocala bella.
3. Callopistria obscura.	7. Plusia mikadina.	11. Catocala prægnax.
4. Callopistria æthiops.	8. Deva splendida.	12. Amphipyra erebina.



R. Mintern del. A. H. Searle lith. Mintern Bros imp.

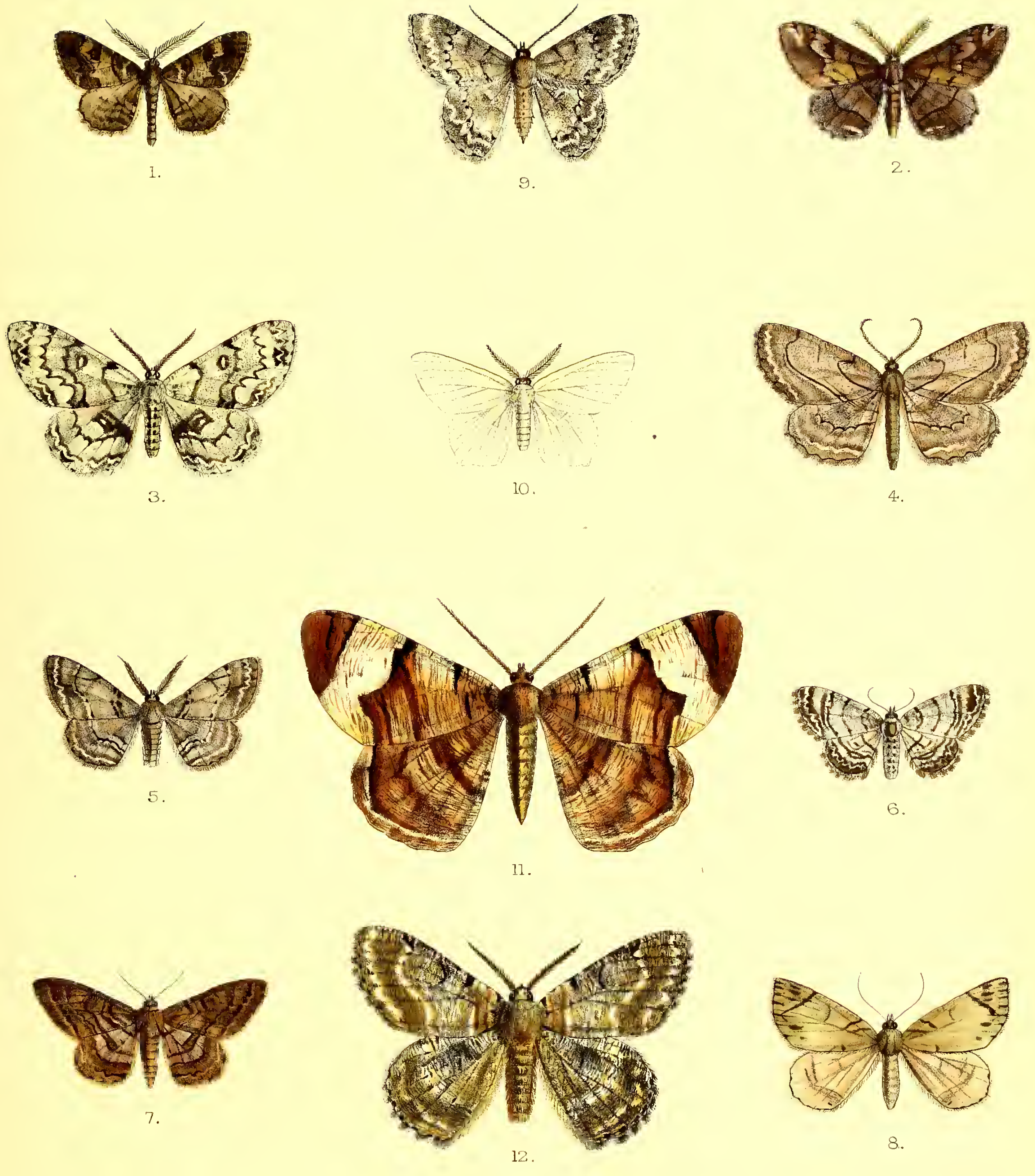
1. Gerbatha ypsilon.
2. Gerbatha angusta.
3. Catocala zalmunna.
4. Psimada cineracea.
5. Plusidia abrostoloides.
6. Selenis mira.
7. Sypna achatina.
8. Sypna fuliginosa.
9. Nyctipao lætitia.
10. Poaphila mollis.
11. Phyllophila cretacea.
12. Hypopyra extricans.



R. Mintern del. A. H. Searle lith.

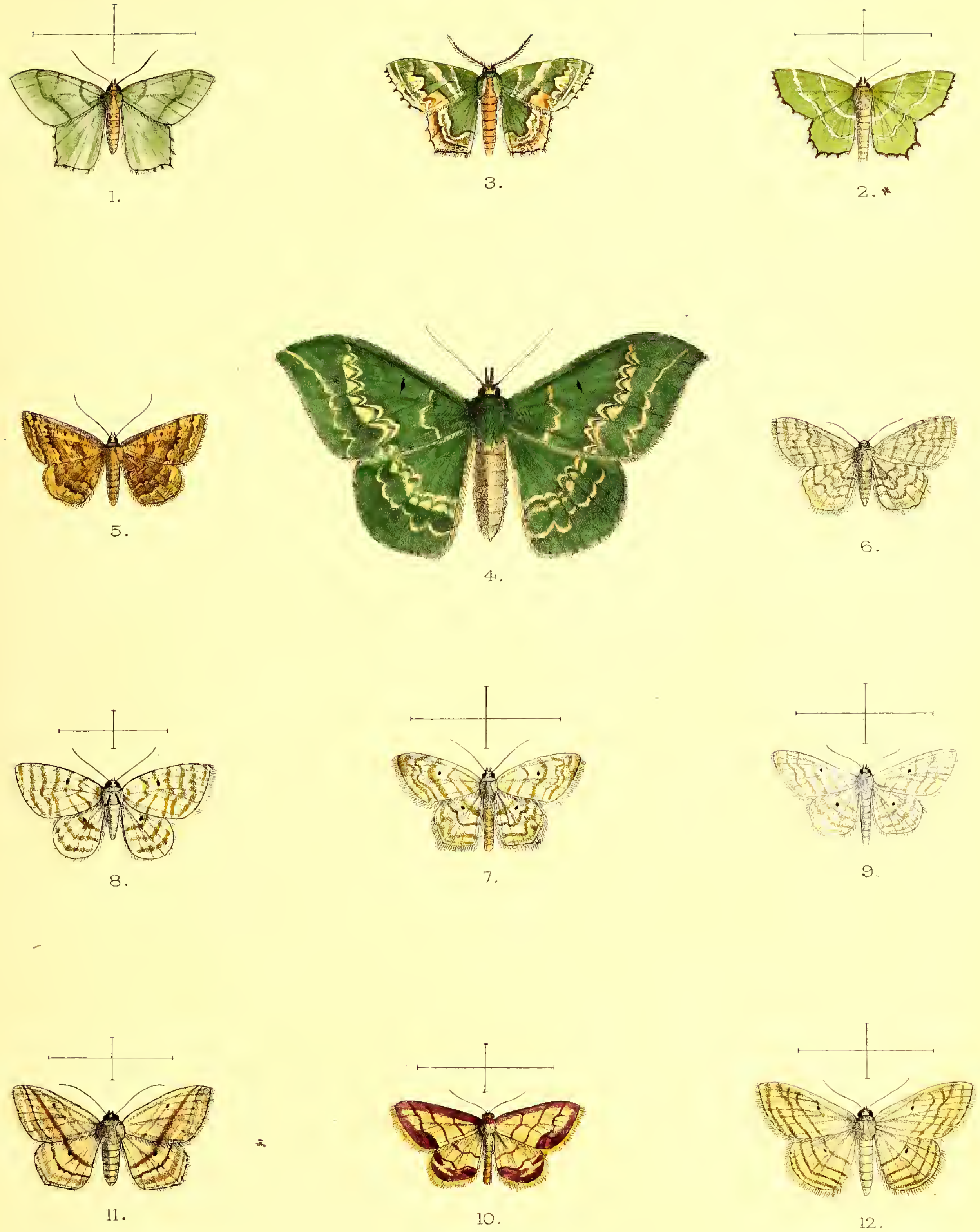
Mintern Bros imp.

1. Urapteryx veneris.
2. Thiopsyche pryeri.
3. Endropia mactans.
4. Descoreba simplex.
5. Bizia æxaria.
6. Corypha incongruaria.
7. Niphonissa arida.
8. Boarmia conferenda.
9. Boarmia agitata.
10. Boarmia lunifera.
11. Boarmia displicens.
12. Boarmia leucophæa.



R. Mintern & A. H. Searle del. Mintern Bros imp.

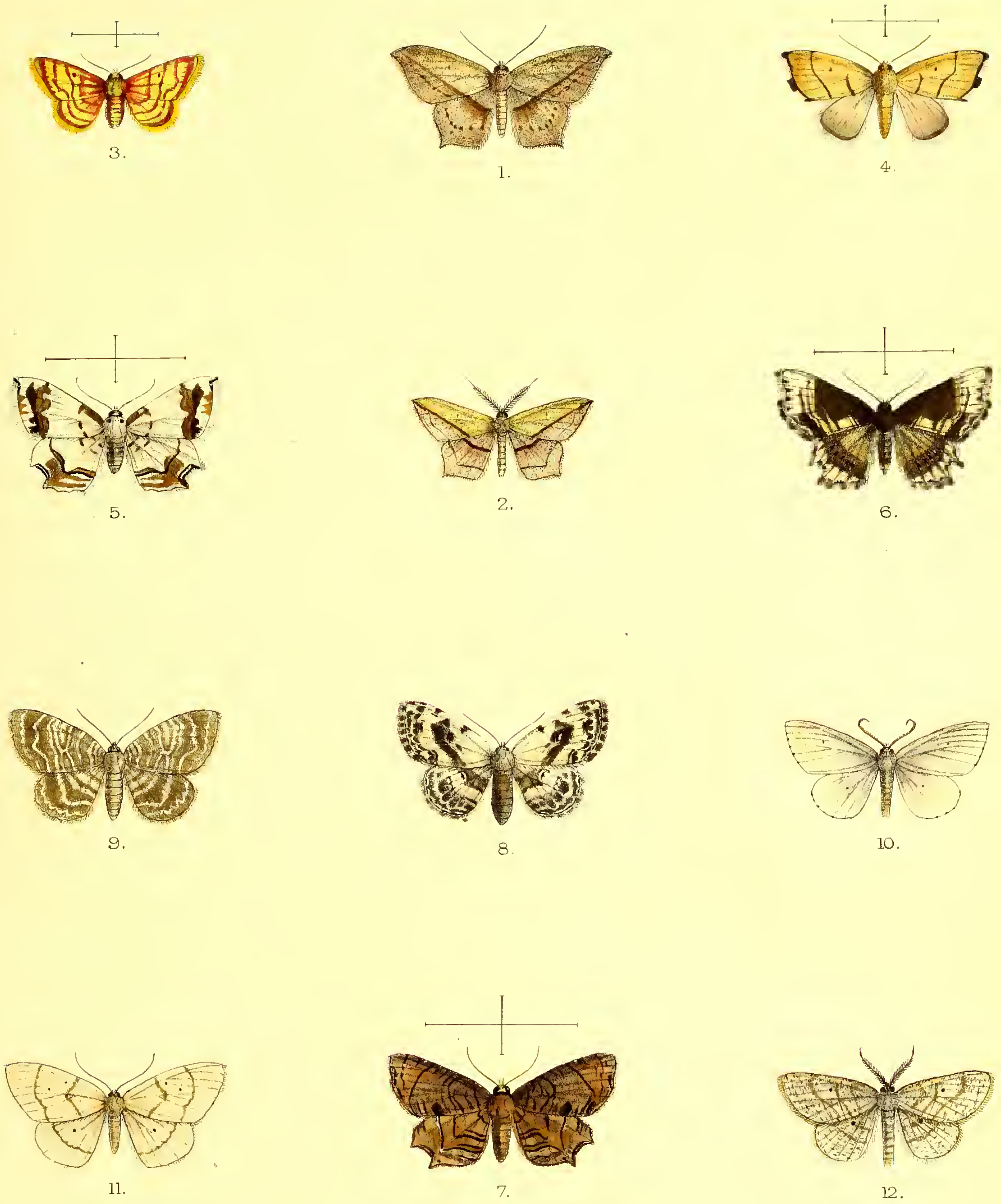
1. Boarmia angulifera.
2. Boarmia grisea.
3. Boarmia senex.
4. Tephrosia charon.
5. Boarmia insolita.
6. Tephrosia ignobilis.
7. Boarmia repulsaria.
8. Bylazora virescens.
9. Hypochroma pryeri.
10. Jodis claripennis.
11. Elphos latiferaria.
12. Hypochroma superans.



R. Mintern & A.H. Searle del.

Mintern Bros imp.

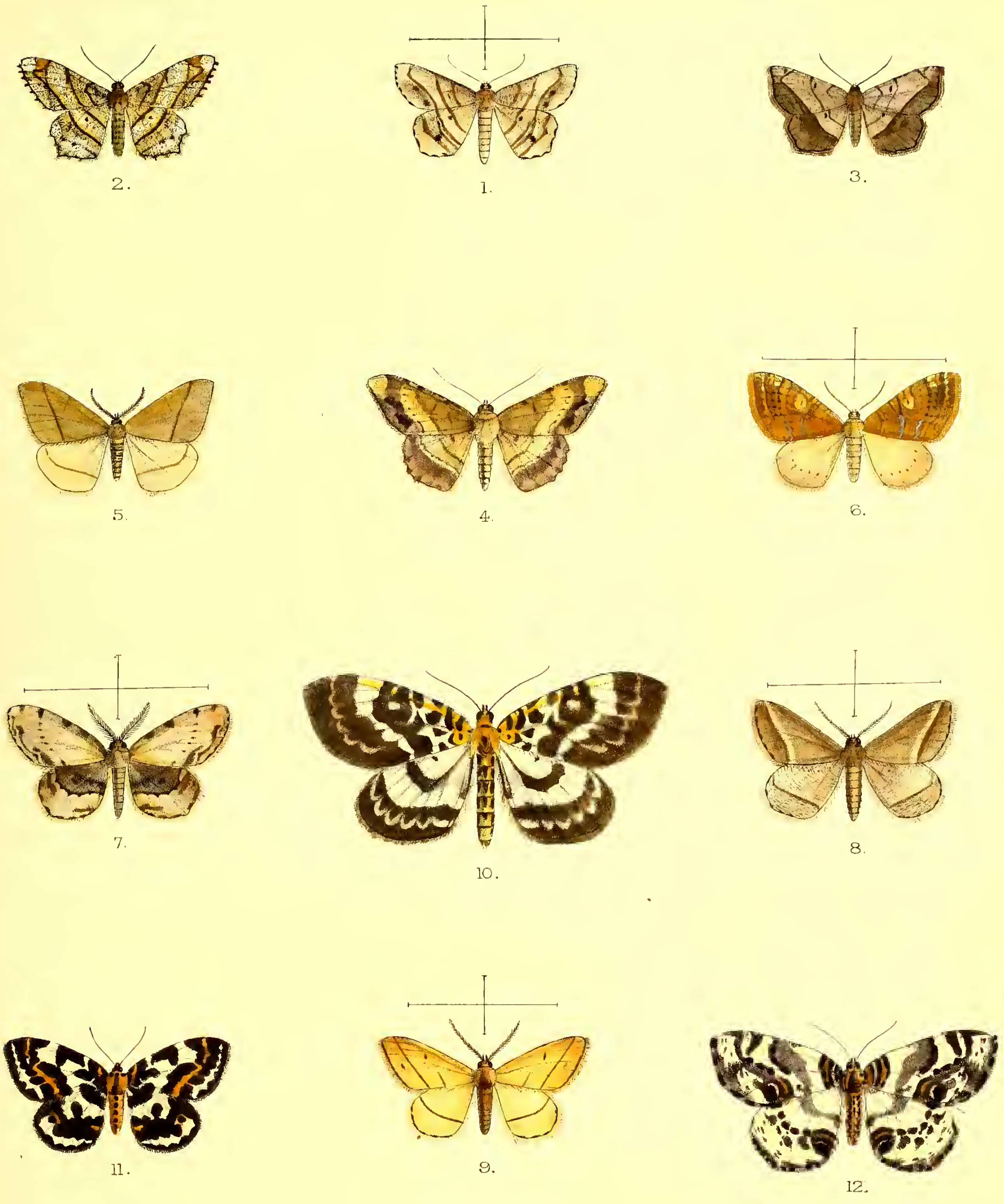
1. Thalassodes marina.
2. Thalera crenulata.
3. Comibæna difficta.
4. Tanaorhinus confuciaria.
5. Anisodes hadassa.
6. Asthena nupta.
7. Asthena confusa.
8. Asthena corculina.
9. Asthena superior.
10. Acidalia jakima.
11. Acidalia hanna.
12. Acidalia absconditaria.



R. Mintern. & A.H. Searle del.

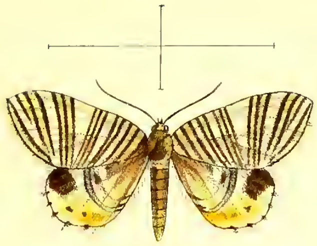
Mintern Bros imp.

1. Timandra extremaria.
2. Timandra comptaria.
3. Hyria sinicata.
4. Michræschus aureus.
5. Erosia rapha.
6. Erosia azela.
7. Erosia moza.
8. Argyris indicataria.
9. Cabera eliela.
10. Corycia virgo.
11. Corycia sacra.
12. Thysanochilus purus.



R. Mintern. & A.H. Searle del. Mintern Bros imp.

1. Macaria hebesata.
2. Macaria zachera.
3. Macaria maligna.
4. Bithia amasa.
5. Lozogramma bela.
6. Lozogramma amelia.
7. Selidosema sordida.
8. Aspilates irradiata.
9. Aspilates discriminaria.
10. Euchera agnes.
11. Abraxas conspurcata.
12. Abraxas miranda.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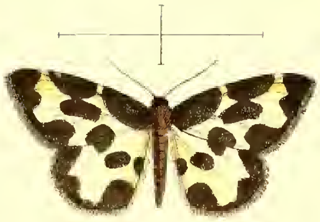
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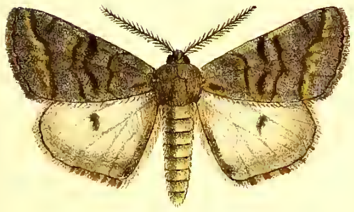
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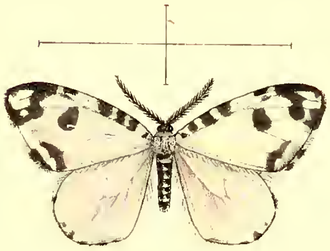
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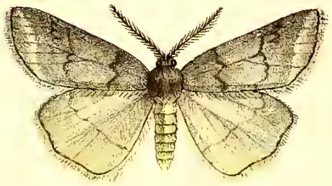
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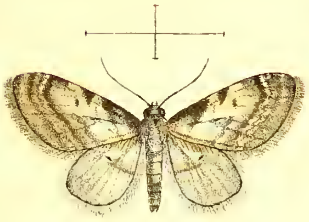
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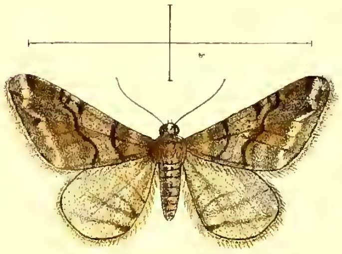
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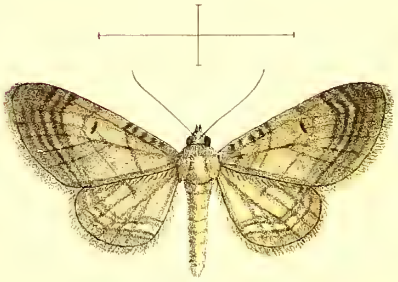
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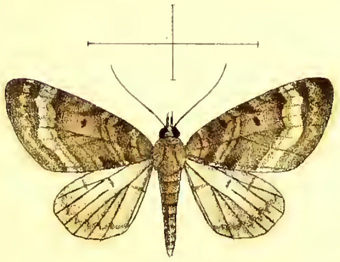
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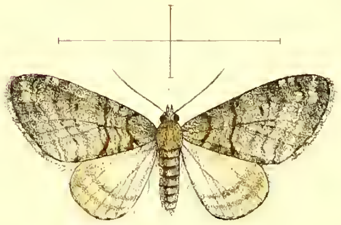
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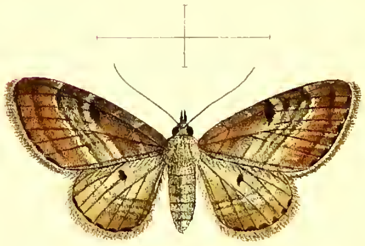
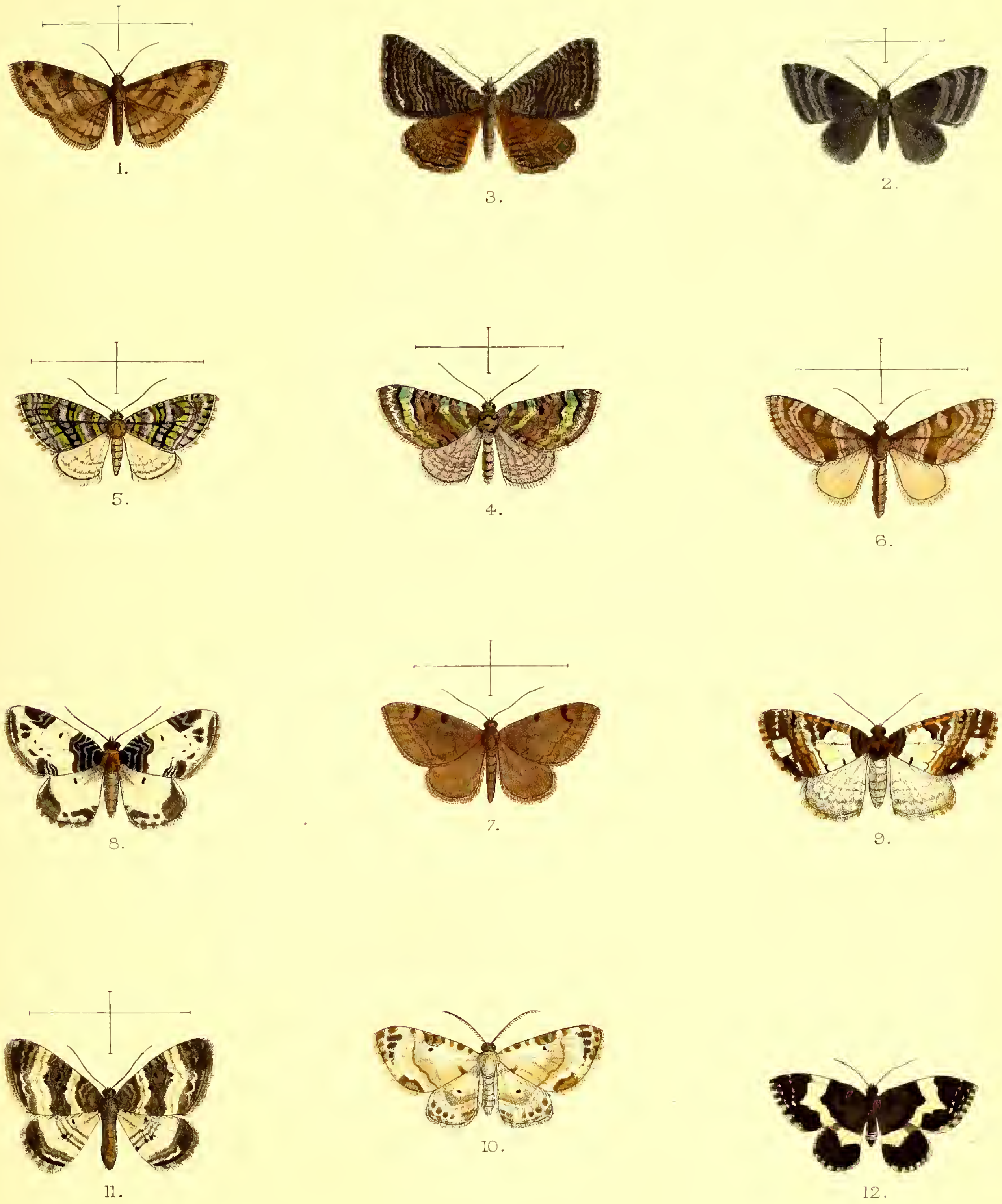

12.

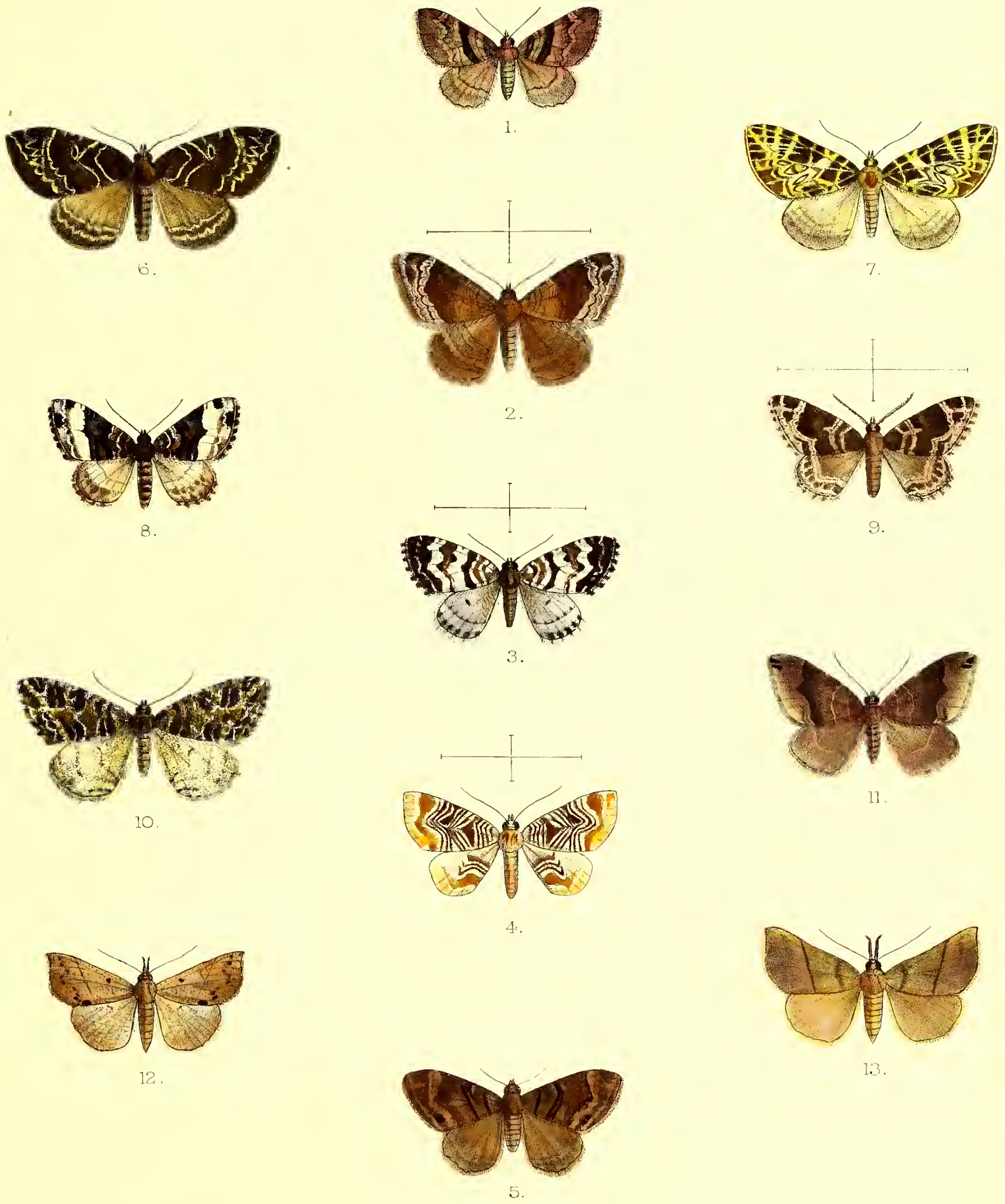
R. Mintern & A. H. Searle del. Mintern Bros imp.

1. Abraxas placida.
2. Abraxas plurilineata.
3. Lomaspilis opis.
4. Deroca phasma.
5. Pachyligia dolosa.
6. Pachyligia modesta.
7. Hybernia dira.
8. Larentia hemana.
9. Eupithecia sophia.
10. Eupithecia invisa.
11. Eupithecia excisa.
12. Eupithecia rufescens.



R. Mintern & A. H. Searle del. Mintern Bros imp.

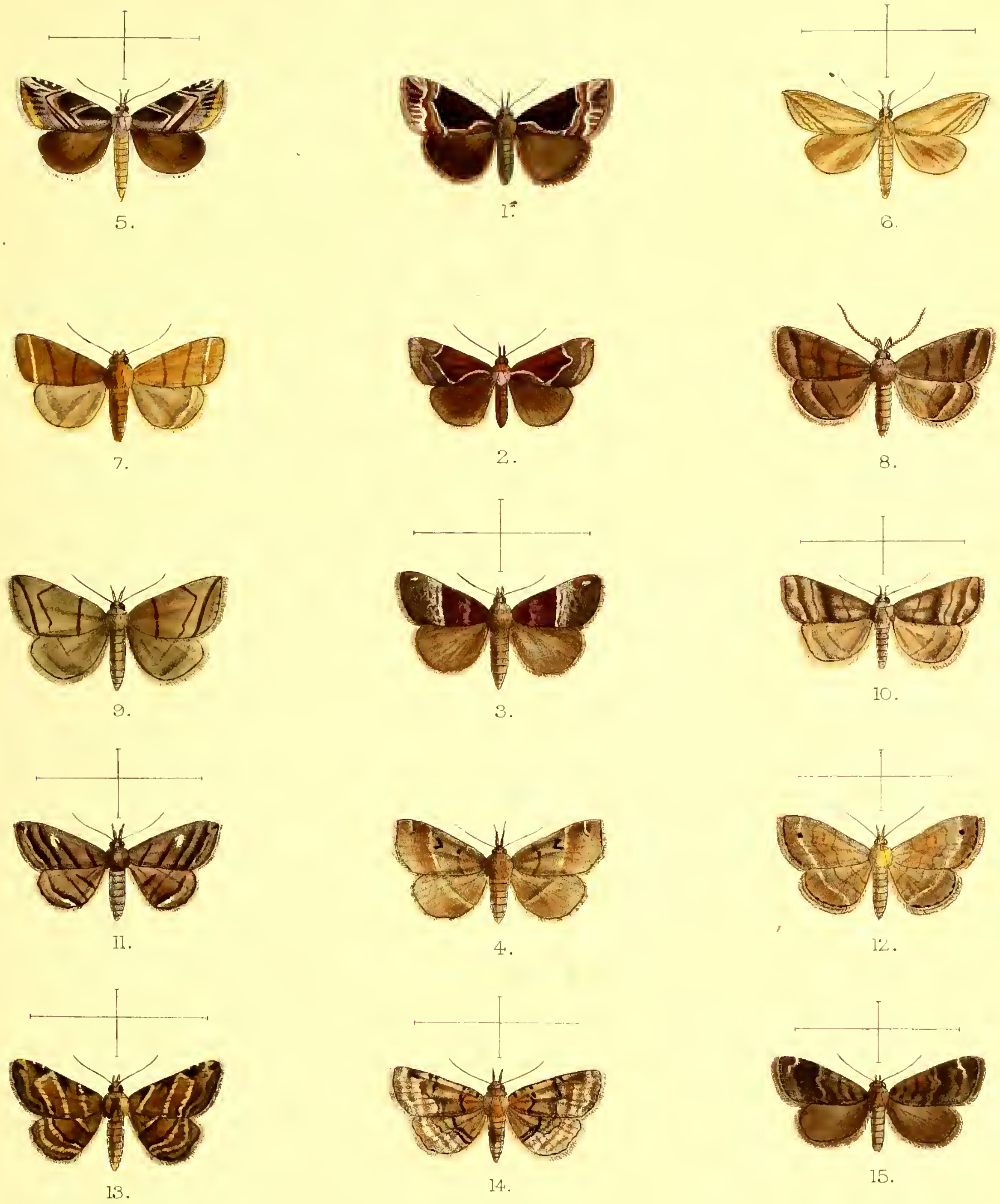
1. Eupithecia proterva.
2. Eupithecia caliginea.
3. Collix vashti.
4. Lobophora julia.
5. Lobophora volitans.
6. Lobophora terranea.
7. Lygranoa fusca.
8. Melanthia casta.
9. Melanippe inquinata.
10. Melanippe bella.
11. Melanippe supergressa.
12. Melanippe hecate.



R. Mintern & A. H. Searle del.

Mintern Bros imp.

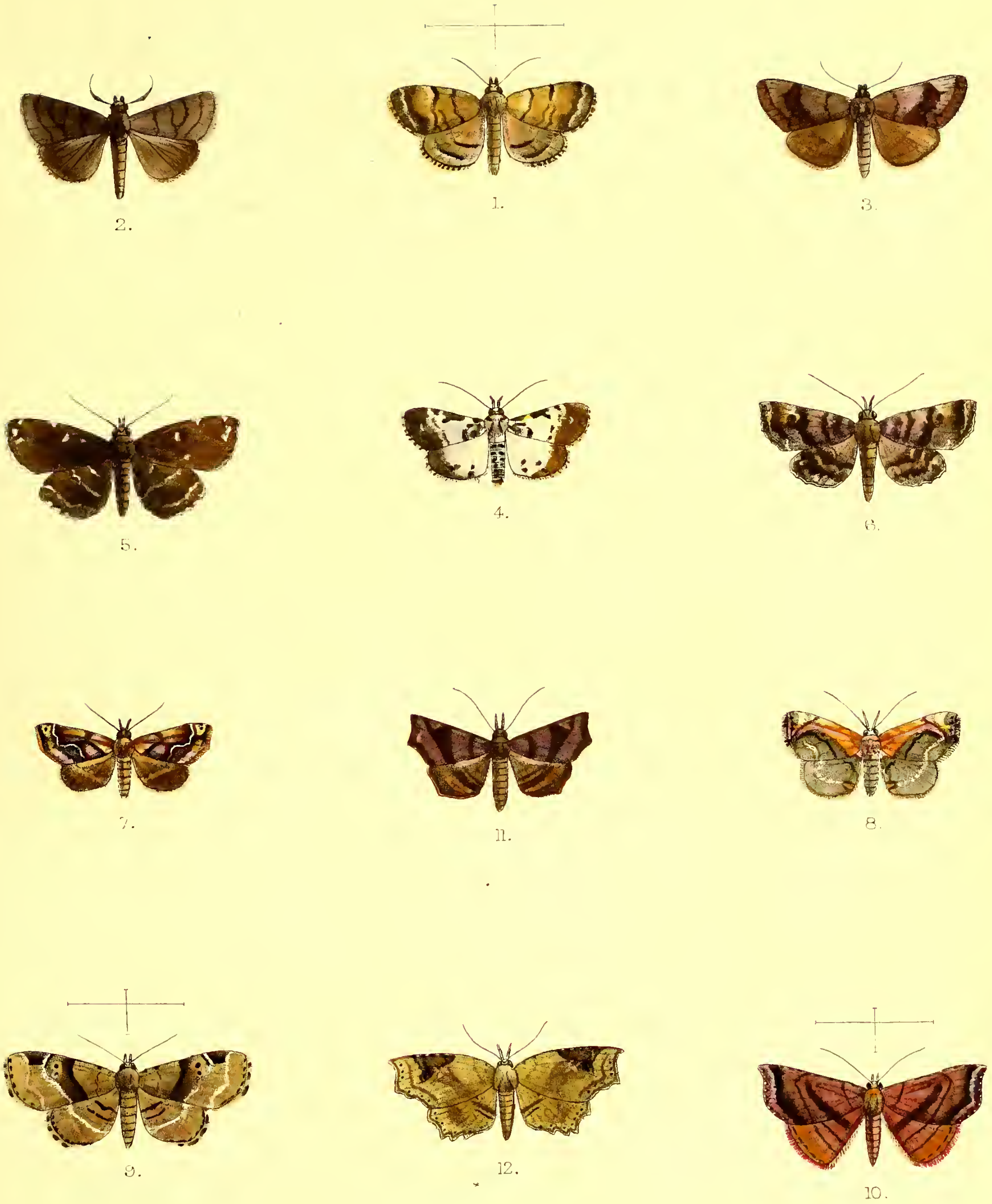
1. Anticlea consanguinea. 2. Coremia livida. 3. Coremia frigida.
4. Cidaria complicata. 5 Cidaria obscura. 6. Cidaria melancholica.
7. Cidaria ærosa. 8. Cidaria cineraria. 9. Cidaria jameza.
10. Cidaria tetrica. 11. Eubolia niphonica. 12. Hypena minna.
13. Hypena tatorhina.



R. Mintern & A. H. Searle del.

Mintern Bros imp.

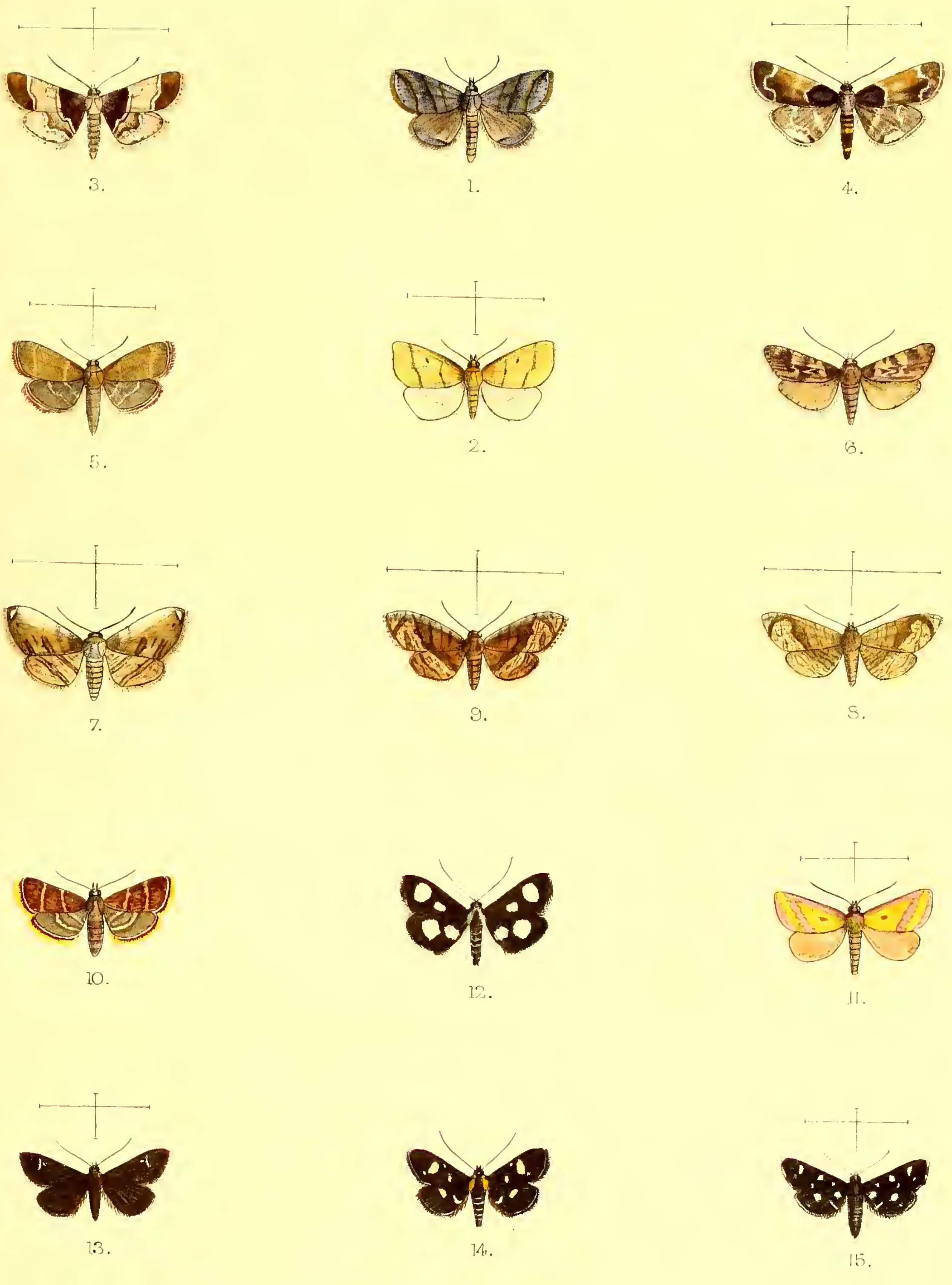
1. Hypena zilla.
2. Hypena squalida.
3. Hypena belinda.
4. Gisira signata.
5. Hormisa plusioides.
6. Hormisa cramboides.
7. Herminia sicca.
8. Herminia fumosa.
9. Herminia griselda.
10. Herminia innocens.
11. Herminia pryeri.
12. Herminia fentoni.
13. Bleptina petrina.
14. Bleptina lignea.
15. Bleptina morosa.



R. Mintern & A. H. Searle del.

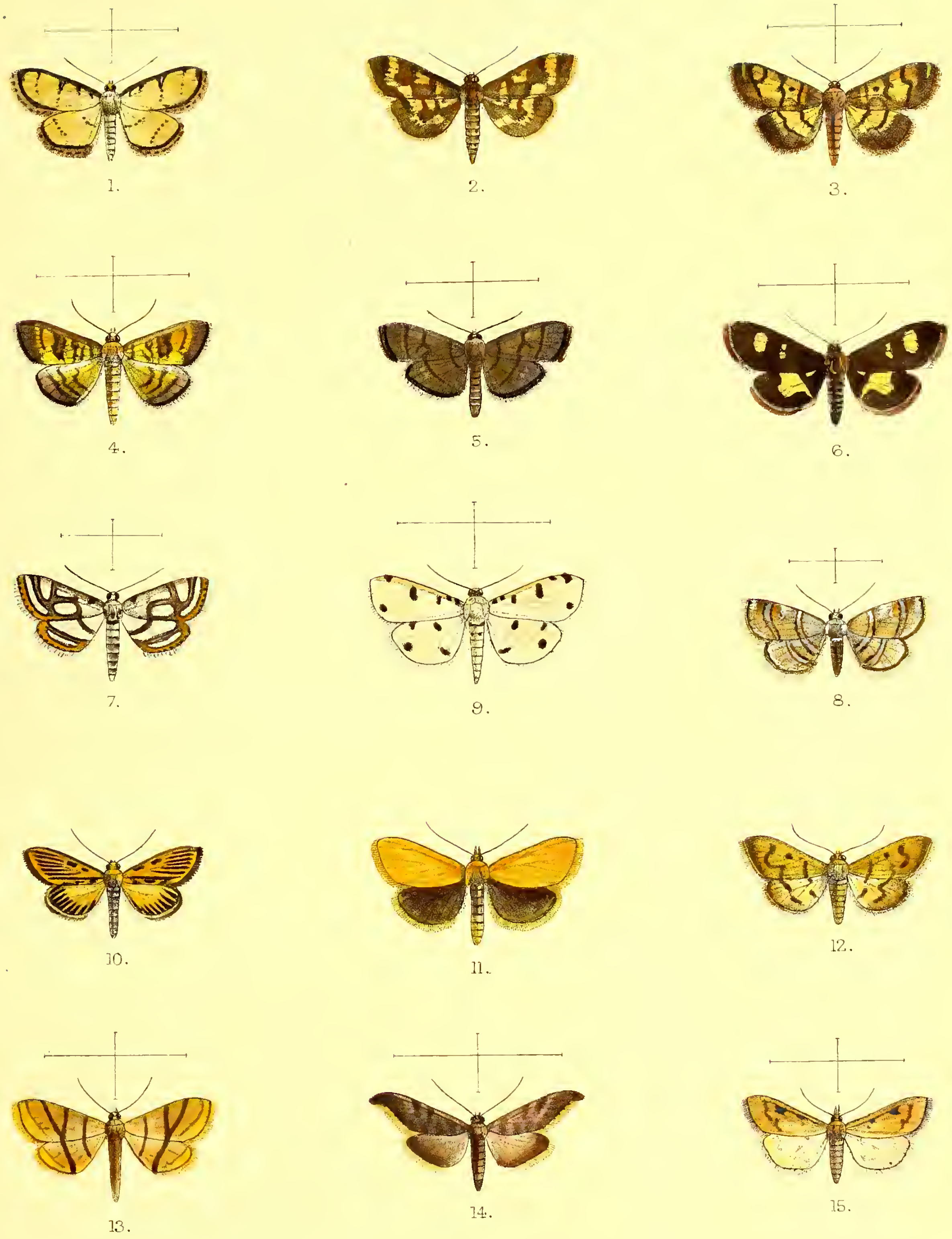
Mintern Bros imp.

1. Bleptina ægrota.
2. Bocana tristis.
3. Mesoplectra lilacina.
4. Locastra margarita.
5. Egnasia simplex.
6. Egnasia porphyrea.
7. Egnasia polybapta.
8. Egnasia pulcherrima.
9. Egnasia pusilla.
10. Celeopsyche nitens.
11. Marmorinia obscurata.
12. Marmorinia amphidecta.



R. Mintern & A.H. Searle del. Mintern Bros. imp.

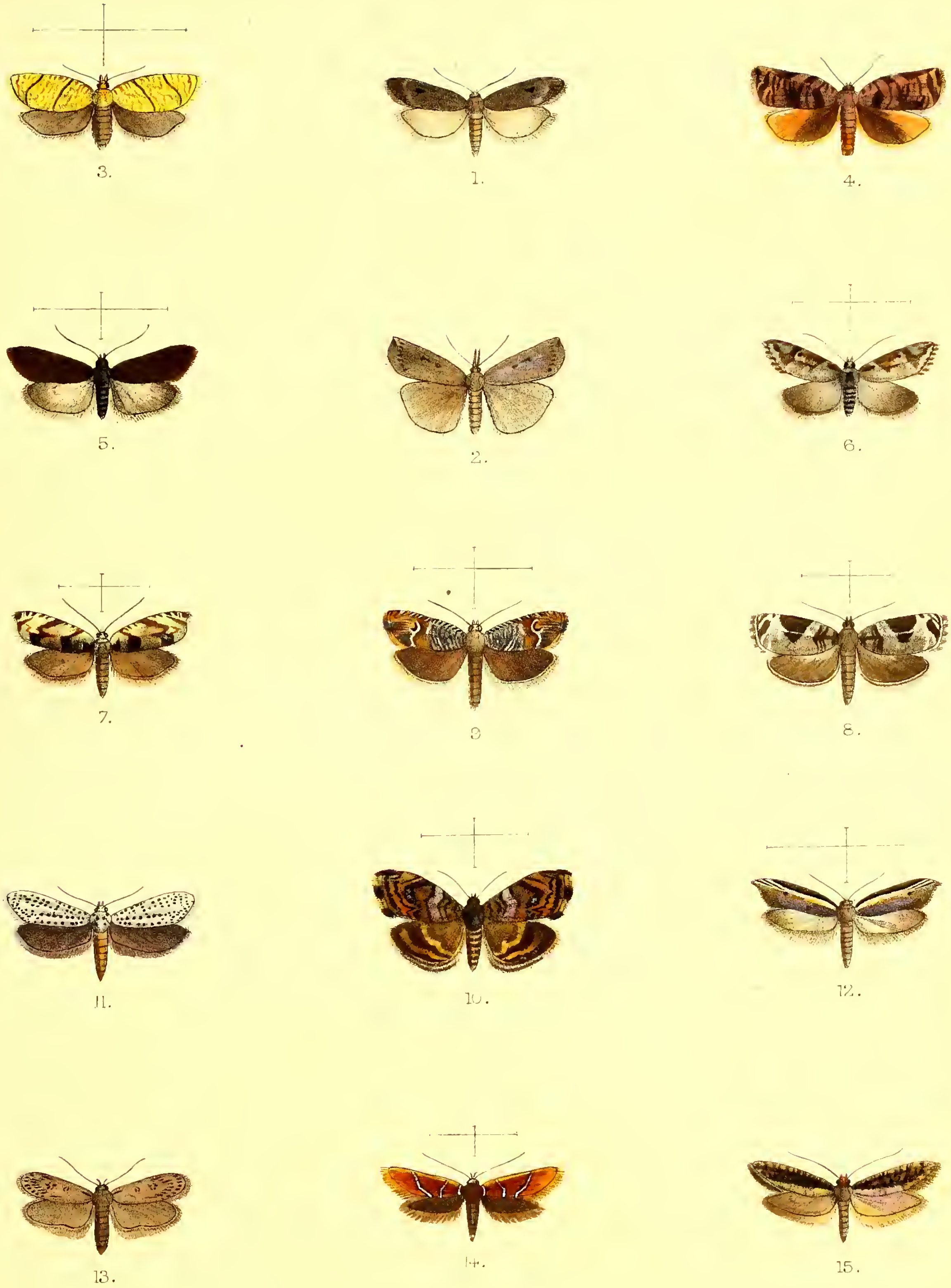
1. Amblygoes cinerea.
2. Marimatha straminea.
3. Pyralis elachia.
4. Pyralis fraterna.
5. Pyralis nannodes.
6. Aglossa achatina.
7. Microsca pallida.
8. Microsca exusta.
9. Microsca ardens.
10. Rhodaria placens.
11. Rhodaria amata.
12. Ennychia assimilis.
13. Ennychia limbata.
14. Ennychia astrifera.
15. Desmia stellaris.



R. Mintern & A. H. Searle del.

Mintern Bros imp.

1. Samea butyrosa.
2. Samea magna.
3. Samea usitata.
4. Samea gracilis.
5. Asopia misera.
6. Hymenia tricolor.
7. Oligostigma corculina.
8. Hydrocampa cretacea.
9. Zebronia argyria.
10. Astura striata.
11. Botys inornata.
12. Botys aurea.
13. Botys arbiter.
14. Circobotys nycterina.
15. Scopula testacea.



R. Mintern & A. H. Searle del.

Mintern Bros imp.

1. Melissoblaptes tenebrosus.
2. Crambus whitelyi.
3. Pandemis sinapina.
4. Cacoecia similis.
5. Sciaphila fumosa.
6. Sciaphila cupreifera.
7. Phoxopteryx pulchra.
8. Penthina cuphostra.
9. Penthina acharis.
10. Simæthis hyligenes.
11. Hyponomeuta polysticta.
12. Cerostoma strigosa.
13. Depressaria nomia.
14. Œcophora enopisema.
15. Safra lignea.